

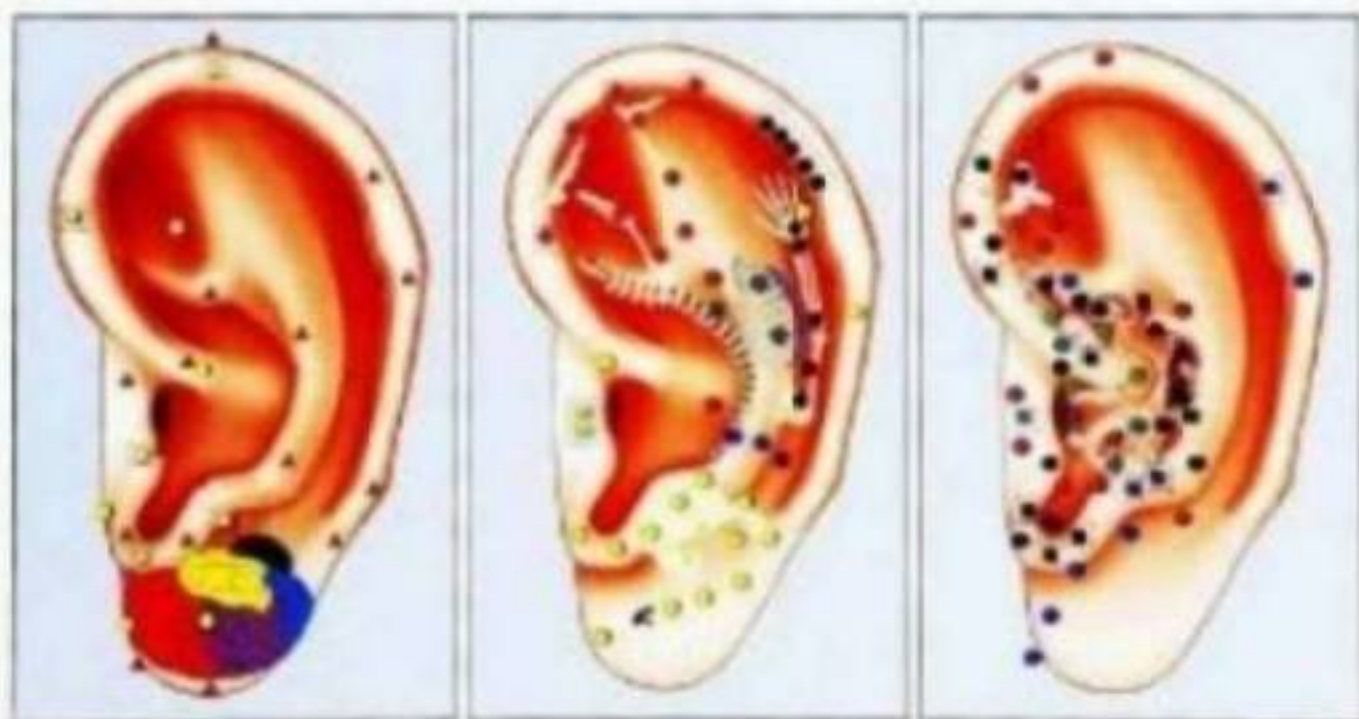
THIRD EDITION

Auriculotherapy Manual

*Chinese and
Western Systems
of Ear Acupuncture*

Terry Oleson

Foreword by Raphael Nogier



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Note

Medical knowledge is constantly changing. As new information becomes available, changes in treatment, procedures, equipment and the use of drugs become necessary. The author and publishers have, as far as it is possible, taken care to ensure that the information given in this text is accurate and up to date. However, readers are strongly advised to confirm that the information, especially with regard to drug usage, complies with the latest legislation and standards of practice.

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Foreword

I have known Dr Terry Oleson for a number of years and I am very pleased to have been asked to write some lines of introduction for the third edition of the *Auriculotherapy Manual: Chinese and Western Systems of Ear Acupuncture*. I have very high regard for the advanced level of information contained in this book. Dr Oleson states extremely well that there are two very different approaches to understand about auriculotherapy. One approach is Oriental, the other one is Occidental. The Oriental approach calls upon the basic concepts of classical acupuncture. Most prominent are the concepts of yin and yang. In this Eastern approach towards auriculotherapy, the notion of 'energy' is omnipresent. The metaphysical view of the world and of man is the primary focus, even more prominent than the doctrines of physiology and anatomy.

The Western approach towards auriculotherapy, that which Paul Nogier first proposed, rests upon the scientific method of observations, and the repetition of such observations. It is also grounded upon the basic foundations of anatomy and physiology. In the Western approach, there is no notion of energy and no metaphysical philosophy that underlies this technique. In fact, without going into details, the external ear has particular diagnostic and treatment properties because of its innervation and because of the presence of neuro-vascular complexes. These complexes are small, actual entities consisting of micro-hormones dispersed under the skin of the external ear.

There are actually two juxtaposed somatotopic systems which explain auriculotherapy as it is practiced today in Europe. The first system is based on nervous fibers distributed throughout the auricle and is purely a reflex. It is with this system that one uses auriculotherapy to alleviate pain. The second system rests upon the existence of the neuro-vascular complexes discovered by the team of Pr Senelar: Odile Auziech, Claudie Terral. On the external ear, there exist cutaneous points of reduced electrical resistance that correspond to histological microformations made up of a nerve, a lymphatic vessel, a small artery, and a veinule. It is these microformations that are called neuro-vascular-complexes. Stimulation of these complexes by infra red light modifies the temperature and the thermal regulation of internal body organs, thus modifying their function.

Schematically, the external ear is like a computer keyboard which acts on the whole organism through the intermediary of the central nervous system and the auricular micro-hormonal system. This auricular system has two types of computer keys, one set connected to the spinothalamic system that modulates pain perception and another set which initiates the release of active hormonal substances which modify specific internal organs. When looking at the ear, one will obtain a different effect if a needle is used, or a laser light, or a magnetic field. As with everything in medicine, great skill is required to master this technique. The computer keyboard on the ear allows clinicians to effectively treat pain, functional disorders, addictive problems, and minor psychiatric disorders.

It is well known that Paul Nogier, my father, discovered the somatotopic properties of the external ear. There are just a few fortunate people who not only dream, but who are able to carry out their dreams and bring them into reality. Paul Nogier was at the same time a man of innovative thoughts and a man of productive action. He was a gifted clinician of exceptional abilities who attentively listened to his patients, respected what they had to say, and thoroughly investigated their maladies. Tirelessly, he examined patients from Monday morning to Saturday evening, trying to understand and to cure their illnesses. One cannot understand the work of Paul Nogier without knowing his character. He was a man who spent much of his time proposing sometimes contradictory new ideas, the majority of which fell by the wayside. Nevertheless, his most original ideas remain: the somatotopic representations on the ear, the vascular autonomic signal, and the treatment effect of specific frequencies. It is for these discoveries that many students followed him so devotedly. At the same time, confronted with so much apparent inconstancy, much of the teaching by this great master was not understood or fell out of favor.

This third edition of the *Auriculotherapy Manual* strives to bring closer together Western neurophysiological concepts and Oriental energetic concepts as they relate to auriculotherapy. Dr Oleson lives in a state in the USA which also assimilates Western and Eastern cultures. Perhaps only in California could one be able to do the work that he has done. In the third edition of this book, the origins of auriculotherapy are traced to historical sources in the West as well as China. The use of acupuncture points on the external ear has had a long tradition in Oriental medicine, which expanded in a different direction with the introduction of the somatotopic ear charts developed by Paul Nogier. At the same time, interest in auricular medicine brought greater attention to the practice of classical acupuncture in Europe.

This book explores a broad range of theoretical perspectives that have been developed to understand the underlying bases of auriculotherapy. The somatotopic features of multiple micro-acupuncture systems, the relationship of ear acupuncture to other concepts in Oriental medicine, and holographic models are all described in a comprehensive manner. Neurophysiological investigations of auricular acupuncture, and the role of hormonal substances such as endorphins, are substantiated with numerous scientific studies. Artistic illustrations revealing the anatomical regions of the external ear facilitate greater comprehension of the correspondences between the ear and the body. The auricular zone system developed by Dr Oleson provides clinically useful reference guidelines for conducting auricular diagnosis and auriculotherapy treatments. The predominant portion of this book presents several hundred ear acupuncture points organized by major anatomical systems. Auricular representation of the musculoskeletal system, visceral organs, endocrine glands, and the nervous system are differentiated by their anatomical location and clinical function.

The treatment plans presented at the end of this book integrate ear acupuncture points discovered in the West as well as in China. In European applications of auricular medicine, greater emphasis is placed upon palpation of the vascular autonomic signal to determine the reactivity of an ear point and its appropriateness for treatment. This book is a very important contribution to the field of health care in the West and the East. Dr Oleson's work is significant. Even if I ardently defend the Western conceptualizations of auricular acupuncture based upon the ear's unique physiology, I wish that his book meets the success which it well deserves.

Lyon, July 2003

Raphael Nogier MD

Preface

When one has been on a journey for almost three decades, it is not uncommon to wonder how the journey first began. For me, the exploration of the fascinating field of auriculotherapy started with an afternoon lecture I heard while completing my graduate studies at the University of California at Irvine (UCI). The presentation itself had nothing to do either with acupuncture or the external ear, but it stimulated my mind to be drawn to a path that continues to excite me still. The UCI Department of Psychobiology sponsored a weekly guest lecturer series that brought in visiting faculty from all over the United States, but that day's presenter was from our neighboring California campus at UCLA. Dr John Liebeskind mesmerized me with his pioneering research on a concept that, in 1972, was completely new to the field of neuroscience. His laboratory had demonstrated that electrical stimulation of the periaqueductal gray of the brainstem could inhibit behavioral reflexes to painful stimuli. While the sensory pathways that carry pain messages to the brain had been thoroughly investigated, the laboratory of Dr Liebeskind provided the first scientific indication that the brain has the capability to turn off pain as well as respond to pain. It was several years later that subsequent studies would discover endorphins, the morphine-like substances that serve as the body's naturally occurring analgesic. What had made the Liebeskind research so impressive was that the analgesia produced by electrical stimulation could be blocked by the chemical antagonist to morphine known as naloxone. I wrote to Dr Liebeskind after the lecture, met with him at UCLA, and soon submitted an application for a federally funded postdoctoral scholarship working in his laboratory. As my doctoral dissertation examined the firing patterns of neurons in the somatosensory and auditory pathways during Pavlovian conditioning, my postdoctoral grant sought to examine neural firing patterns in the brain pathways related to the inhibition of pain sensations.

In Jungian psychology there is the concept of synchronicity, a meaningful coincidence of separate events that do not seem causally connected (Jung 1964). Jung himself noted that the classical Chinese texts did not ask, What causes an event?, but instead, What likes to occur with what? Too often, individuals fail to notice such synchronistic events, dismissing them as random coincidences. I can often observe such events only in retrospect. I began my work in Dr Liebeskind's lab after receiving my PhD in Psychobiology in 1973. It so happened that the neuroscience laboratories at the UCLA Department of Psychology were in the basement of an 11-story building. After a walk down a long underground hallway one arrived at the UCLA Acupuncture Research Clinic. What first drew me to that end of the building was a strange smell which seemed like marijuana, but in fact was the Chinese herb moxa. While I conducted animal research experiments during the day, I began spending more of my free time hours interacting with the doctors investigating the effects of acupuncture. In 1974, UCLA was one of only a few, major US universities to explore the multiple dimensions of alternative medicine. The UCLA pain clinic successfully treated hundreds of chronic pain patients with acupuncture, biofeedback, hypnosis, guided imagery and nutritional counseling. The directors of the clinic, Dr David Bresler and Dr Richard Kroening, invited me to their offices one afternoon and asked me to be their research director. It was like an invisible force pushed me from behind as I leaped at the opportunity. I did not have any acupuncture skills, but as a psychologist I had extensive training in conducting research. And thus began the amazing journey.

The first research project that we undertook was to examine auricular diagnosis, rather than conduct a clinical outcome study. At that time, the medical profession devalued acupuncture as simply a placebo, but a diagnostic study could not be contaminated by a patient's desire to please their practitioner. It took several years to design the research and collect the data, but there was an energizing atmosphere affecting everyone participating in the clinic that made it a great pleasure to work there. I was surprised myself when the results were finally analyzed and there was such a strong statistical finding. By just examining the external ear, and blind to a patient's diagnosis, a physician could identify the parts of the body where a patient had reported musculoskeletal pain. While I was initially only a scientific observer of such

phenomena, I subsequently took numerous classes and seminars in auriculotherapy and body acupuncture. There were not many US acupuncture schools at that time, but there were plenty of teachers. While mostly unknown in the white, black and Hispanic parts of Los Angeles, there were a large number of practitioners of Oriental medicine in the Asian districts. They were very willing to share their knowledge of their ancient and almost mystical arts. It was only after I presented the results of the auricular diagnosis research to the International Society for the Study of Pain that I learned of the whole field of auricular medicine that is practiced in Europe. American doctors prefer the electrical detection and treatment of acupuncture points more than Asian doctors, and several electronic equipment manufacturers sponsored seminars that incorporated the work of European as well as Chinese acupuncturists. I had read about the pioneering auriculotherapy work of Dr Paul Nogier, but I began studying with physicians who had actually studied with him in France. Dr Tsun-Nin Lee sponsored a presentation by Nogier in San Francisco, and it was then that I first had the opportunity to meet this great man. Dr Nogier only spoke in French, so Dr Joseph Helms had to translate the material into English. It is not always easy to listen to lectures as they are translated, but Dr Nogier held the audience enthralled. He had read of my research on auricular diagnosis and made a special invitation to meet with me, which I was very glad to accept. I had three more opportunities to meet with him personally at international congresses in Europe, and it always seemed like an honor. I always wished that I had more time to upgrade my high school French so that I could converse with him more fluently, but it is very intriguing that a meeting of minds can occur beyond one's linguistic abilities. I feel very fortunate to have received individual guidance on understanding the underlying mechanisms that can account for the impressive benefits of auriculotherapy.

Dr Richard Kroening had once told me that in medical school, when learning a new medical procedure, the motto is see one, do one, teach one. While not progressing quite that fast, I have now had the occasion to teach courses in auriculotherapy at colleges and universities across the United States. The adage that one learns from one's students continues to apply even after 20 years of teaching. Students come to me and inform me of patients they have treated with auriculotherapy for unusual conditions that I have only studied in books. While they tell me that they learned how to do such treatments from earlier editions of my *Auriculotherapy Manual*, the clinical contents of this manual did not begin with me. The works of many acupuncture masters in Asia, Europe, and America inspired me to compile their teachings in a meaningful way. I also had the good fortune to connect with Dr Jim Shores who co-sponsored the International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine in 1999. It was my continued efforts to understand this unusual clinical procedure that has led to this most recent edition. That stimulation of the external ear can affect conditions in other parts of the body does not seem intuitively obvious. Even after treating hundreds of patients with this approach, it continues to amaze me that it can work. The purpose of this book is to explain both the theoretical basis and the clinical practice of auriculotherapy so that others may know of its value.

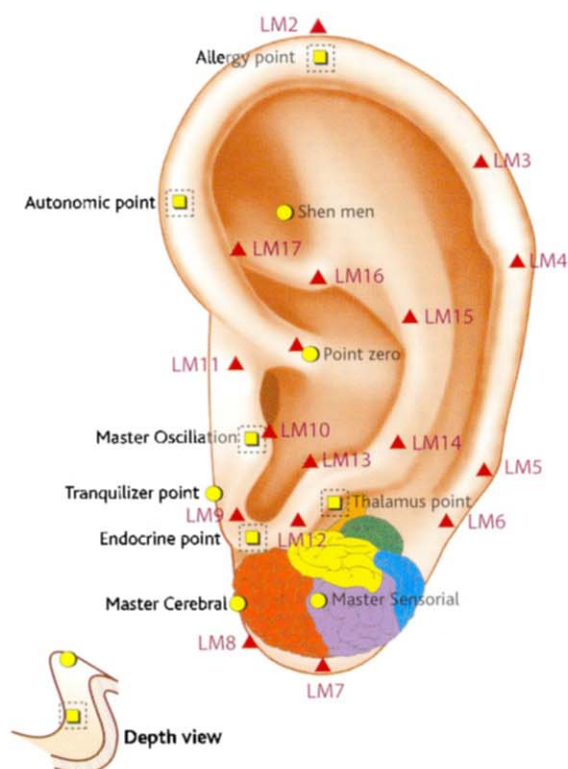
I would like to acknowledge Tim McCracken, Jan James, and Sinuhe Alberto Avalos for their invaluable assistance in producing this book. I want to also thank Danny Watts for his willingness to serve as the model for the human figures used in this book.

Los Angeles 2003

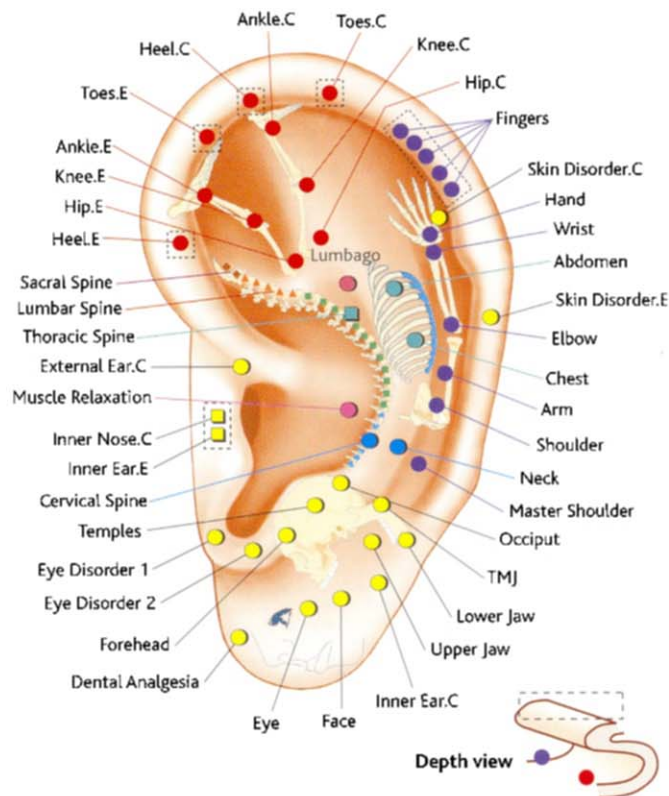
Terry Oleson

Auricular microsystem points

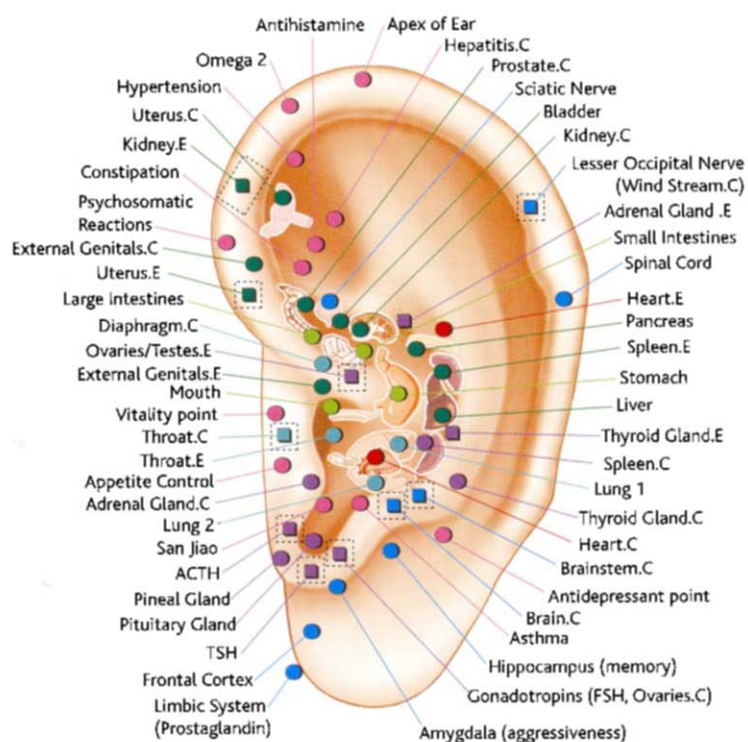
Master points and landmarks



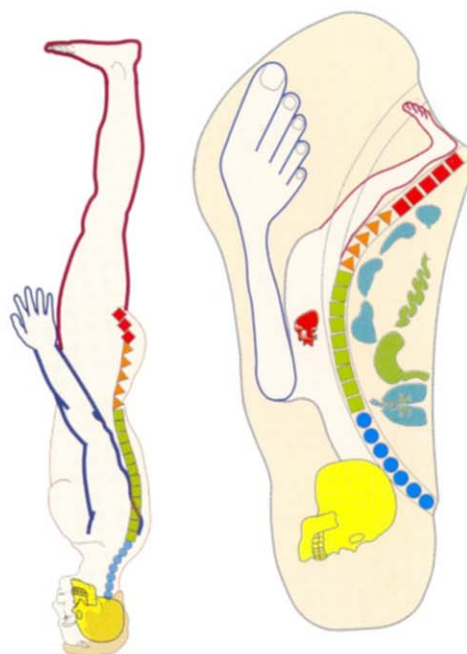
Musculoskeletal points



Internal organ and neuroendocrine points



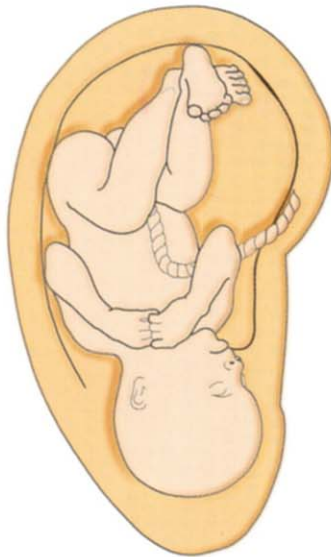
Auricular somatotopic map on posterior of ear



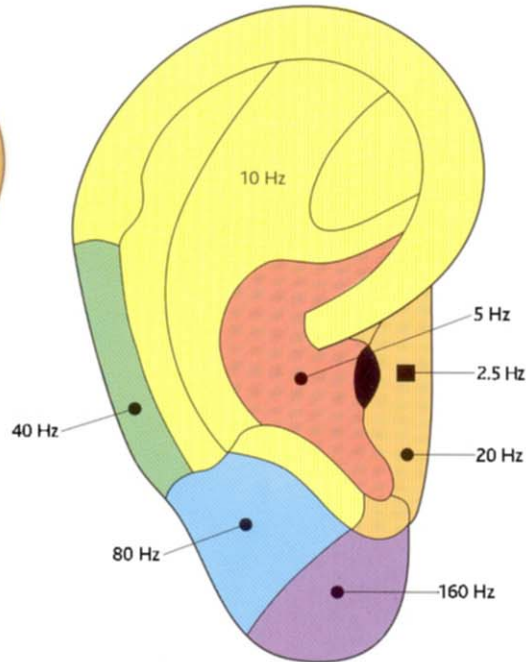
.C – Chinese ear reflex point
.E – European ear reflex point

Anatomical zones of the ear

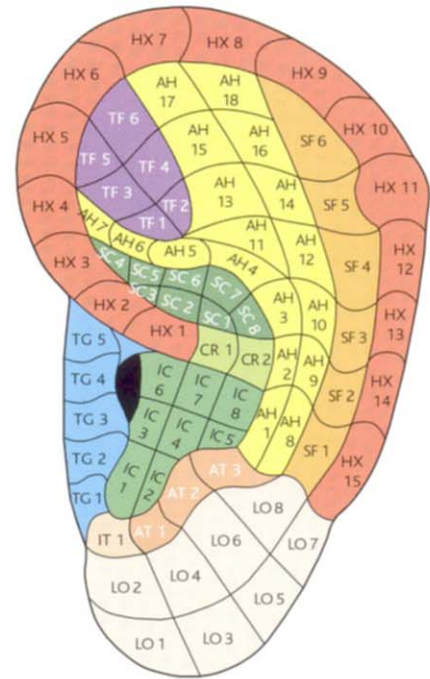
Inverted fetus map



Frequency zones



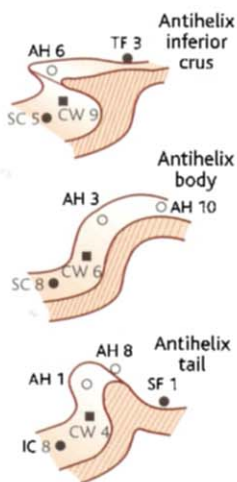
Surface view of auricular zones



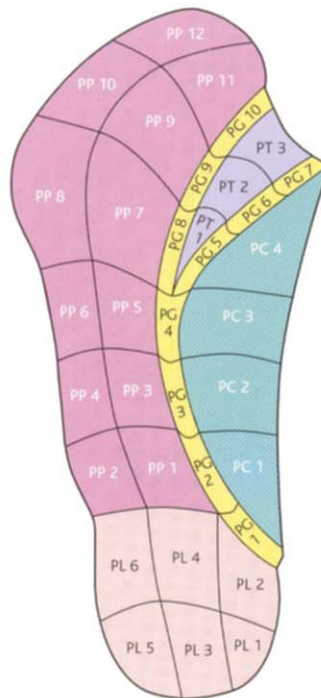
AZ Auricular anatomy

- HX Helix
- AH Antihelix
- LO Lobe
- TG Tragus
- AT Antitragus
- IT Intertragic Notch
- SF Scaphoid Fossa
- TF Triangular Fossa
- SC Superior Concha
- IC Inferior Concha
- CR Concha Ridge
- CW Concha Wall
- ST Subtragus
- IH Internal Helix
- PL Posterior Lobe
- PG Posterior Groove
- PT Posterior Triangle
- PC Posterior Concha
- PP Posterior Periphery

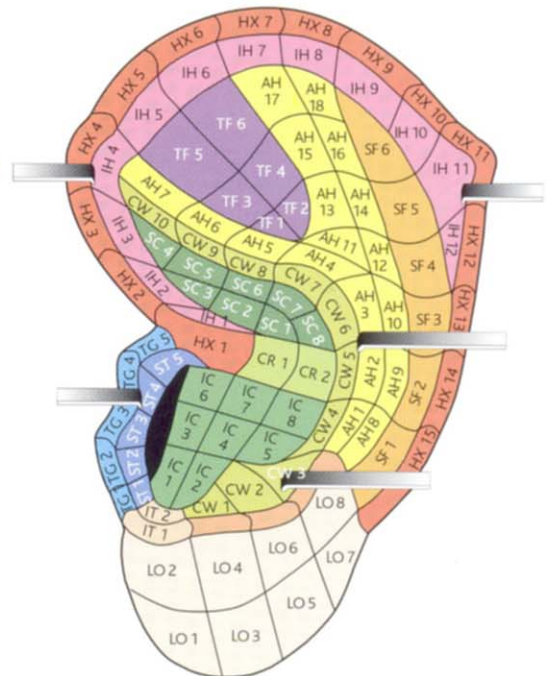
Depth view



Posterior view of auricular zones



Hidden view of auricular zones



Overview and history of auriculotherapy

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- 1.2 Health care practitioners using auriculotherapy
- 1.3 Historical overview of auriculotherapy
- 1.4 Ear acupuncture developments in China
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- 1.6 Comparison of ear acupuncture to body acupuncture

1.1 Introduction to auriculotherapy

Auriculotherapy is a healthcare modality in which the external surface of the ear, or auricle, is stimulated to alleviate pathological conditions in other parts of the body. While originally based upon the ancient Chinese practice of acupuncture, the somatotopic correspondence of specific parts of the body to specific parts of the ear was first developed in modern France. It is this integrated system of Chinese and Western practices of auriculotherapy that is described in this text.

1.2 Healthcare practitioners using auriculotherapy

Acupuncturists: The practice of classical acupuncture and Traditional Chinese Medicine (TCM) includes the insertion of needles into ear acupoints as well as body acupuncture points. These two approaches of stimulating acupuncture points on the body or the ear can be used in the same treatment session or in different sessions. Some acupuncturists stimulate ear reflex points as the sole method of their acupuncture practice, often finding that it is more rapid in relieving pain and more effective in treating substance abuse than body acupuncture.

Biofeedback therapists: Whereas biofeedback is very useful in teaching patients self-control techniques to achieve general relaxation and stress management, auriculotherapy augments biofeedback procedures by producing more direct and immediate relief of myofascial pain and visceral discomfort.

Chiropractic doctors: Auriculotherapy has been used to facilitate spinal manipulations, deep tissue work, and motor point massage. Stimulation of auricular points reduces resistance to the release of muscle spasms and the correction of postural positions by chiropractic adjustments. When auriculotherapy is applied after a manipulative treatment, it tends to stabilize postural realignments achieved by a chiropractic procedure.

Dentists: Auriculotherapy has been used to achieve dental analgesia for the relief of acute pain from either dental drilling or teeth cleaning procedures. For chronic problems, such as headaches and temporomandibular joint (TMJ) dysfunction, auriculotherapy can be combined with trigger point injections, dental splints, and occlusal work, thus facilitating more successful alleviation of chronic head and neck pain.

Medical doctors: Physicians specializing in anesthesiology, surgery, internal medicine, and family practice have employed auriculotherapy for the management of chronic pain, the treatment of acute muscle sprains, and the reduction of unwanted side effects from narcotic medications. Whether practiced by themselves, or by medical assistants working under them, auriculotherapy has been used to alleviate a variety of somatic complaints seen in standard medical practice.

Naturopathic doctors: Naturopathic practitioners often include auriculotherapy along with homeopathic, nutritional and preventive modalities. Auricular diagnosis has been used to

determine specific allergies and appropriate herbal recommendations. Auricular stimulation can relieve distress originating from dysfunctional internal organs.

Nurses: The standard medical care provided by nurses can be greatly assisted by the application of auriculotherapy for the systematic relief of pain and pathology that is not adequately alleviated by conventional medications or procedures.

Osteopathic doctors: Auriculotherapy has been used to facilitate the correction of misaligned vertebrae, to reduce severe muscle spasms, and to augment pain management procedures.

Physical therapists: Auriculotherapy is a powerful adjunct to transcutaneous electrical nerve stimulation (TENS), traction, ultrasound, and therapeutic exercises for the treatment of acute whiplash injuries, severe muscle spasms, or chronic back pain.

Psychotherapists: Psychiatrists and psychologists have employed auriculotherapy for the reduction of anxiety, depression, insomnia, alcoholism, and substance abuse.

Reflexologists: Tactile manipulation of reflex points on the ear can be combined with pressure applied to tender regions of the feet and hands in order to relieve specific body aches and internal organ disorders.

1.3 Historical overview of auriculotherapy

Ancient China: All recorded systems of classical acupuncture are attributed to the Chinese medical text, the *Yellow Emperor's classic of internal medicine* (Veith 1972), compiled between 206 BCE and 220 CE. In this text, all six yang meridians were said to be directly connected to the auricle. Only the yang meridian channels travel to or from the head, whereas the six yin meridians were said to connect to the ear indirectly through their corresponding yang meridians. These ancient Chinese ear acupuncture points, however, were not arranged in an anatomically organized pattern. They were depicted on the ear as a scattered array of non-meridian points, with no apparent logical order. Reactive ear acupoints that were tender to palpation were referred to as yang alarm points.

Ancient Egypt, Greece and Rome: The Egyptologist Alexandre Varille has documented that women in ancient Egypt who did not want any more children sometimes had their external ear pricked with a needle or cauterized with heat. Gold earrings worn by Mediterranean sailors were not just used as decorations, but were said to improve vision. Hippocrates, the 'father' of Greek medicine, reported that doctors made small openings in the veins behind the ear to facilitate ejaculation and reduce impotency problems. Cutting of the veins situated behind the ear was also used to treat sciatic pains. The Greek physician Galen introduced Hippocratic medicine to the Roman empire in the second century CE, and commented on the healing value of blood letting at the outer ear.

Ancient Persia: After the fall of Rome, the medical records of Egyptian, Greek, and Roman medicine were best preserved in ancient Persia. Included in these Persian records were specific references to medical treatments for sciatic pain produced by cauterization of the external ear.

European Middle Ages: The Dutch East India Company actively engaged in trade with China from the 1600s to 1800s. As well as silk, porcelain, tea, and spices, Dutch merchants brought Chinese acupuncture practices back to Europe. Doctors working with the company had become impressed by the effectiveness of needles and moxa for relieving conditions such as sciatic pain and arthritis of the hip. This pain relief could be obtained by needles inserted into body acupoints, by the cauterization of the external ear, or by cutting the veins behind the ears.

Modern Europe: In 1957, Dr Paul Nogier, a physician residing in Lyons, France, first presented his observations of the somatotopic correspondences of the auricle. Considered the 'Father of Auriculotherapy', Dr Nogier originated the concept of an inverted fetus map on the external ear. He developed the proposition after noticing scars on the ears of patients who had been successfully treated for sciatic pain by a lay healer. Nogier's research was first published by a German acupuncture society, was then circulated to acupuncturists in Japan, and was ultimately translated into Chinese, for distribution to acupuncturists throughout China. The Medical Studies Group of Lyons (GLEM) was created to further explore the clinical benefits of auricular medicine.

Modern China: After learning about the Nogier ear charts in 1958, a massive study was initiated by the Nanjing Army Ear Acupuncture Research Team. This Chinese medical group verified the clinical effectiveness of the Nogier approach to auricular acupuncture. They assessed the conditions of over 2000 clinical patients, recording which ear points corresponded to specific diseases. As part of Mao Tse Tung's efforts to de-Westernize Chinese medicine, 'barefoot doctors' were taught the easily learned techniques of ear acupuncture to bring healthcare to the Chinese masses. In the 1970s, the Hong Kong physician HL Wen conducted the first clinical studies on the use of ear acupuncture for opiate detoxification (Wen & Cheung 1973; Wen 1977; Wen et al. 1978, 1979).

Modern United States: Beginning in 1973, clinical work by Dr Michael Smith at Lincoln Hospital in New York led to the application of auricular acupuncture for withdrawing addicts from opiate drugs, crack cocaine, alcohol, and nicotine (Patterson 1974; Sacks 1975; Smith 1979). The first double blind evaluation of auricular diagnosis was conducted in 1980, at the University of California at Los Angeles (Oleson et al. 1980a). The localization of musculoskeletal pain was established by one investigator, then a second doctor examined the auricle for specific areas of heightened tenderness and increased electrical conductance. Ear points identified as reactive were significantly correlated with specific areas of the body where some pain or dysfunction had been diagnosed. Training programs on the protocol of using five ear acupuncture points for substance abuse treatment led to the formation of the National Acupuncture Detoxification Association (NADA) (Smith 1990). Another organization, the American College of Addictionology and Compulsive Disorders (ACACD), has trained chiropractic and medical doctors in the treatment of addiction with auricular stimulation (Holder et al. 2001). In 1999, the International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine (ICCAAAM) brought together auricular medicine practitioners from Asia, Europe, and America to establish a consensus on the current understanding of auricular acupuncture as it is practiced throughout the world. The Auriculotherapy Certification Institute (ACI) was established in 1999 to certify practitioners who have achieved a high level of mastery in this field.

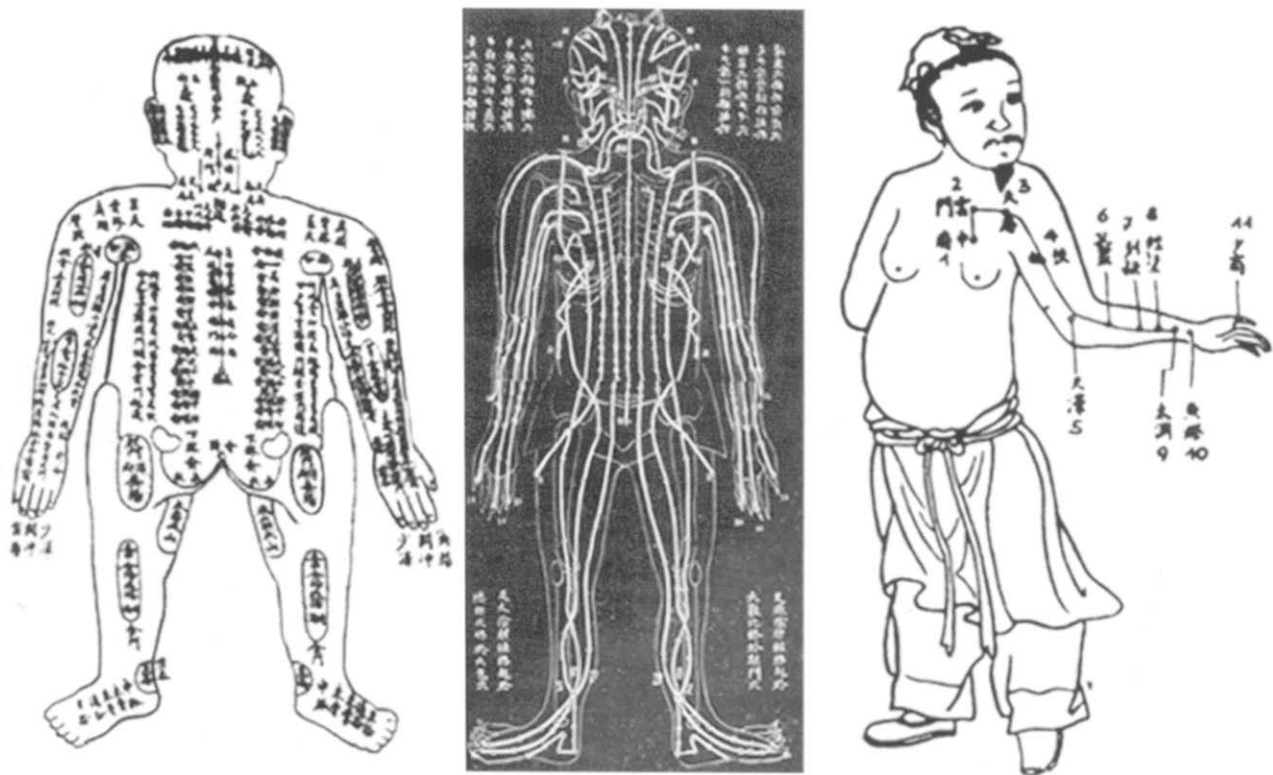


Figure 1.1 Ancient Chinese charts indicating location of acupuncture meridian channels in three different presentations.

World Health Organization (WHO): International meetings of the WHO sought to standardize the terminology used for auricular acupuncture nomenclature. Consensus conferences were held in China, Korea, and the Philippines, from 1985 to 1989. At the 1990 WHO meeting in Lyons, France, doctors from Asia, Europe, and America agreed to finalize the standardization of names for auricular anatomy (Akerle 1991; WHO 1990a). A consensus was arrived at for the identification of ear points according to Chinese and European ear acupuncture charts.

1.4 Ear acupuncture developments in China

Classical acupuncture was first developed in China over 2000 years ago. Its historical roots have been intriguingly documented in Unschuld's *Medicine in China* (1943), *Chen's history of Chinese medical science* (Hsu & Peacher 1977), Eckman's *In the footsteps of the Yellow Emperor* (1996), and Huan & Rose's *Who can ride the dragon?* (1999). As with primitive medical practice in other parts of the world, Chinese shamans sought to ward off evil demons that they perceived as the source of diseases; they enlisted ancestral spirits for assistance in healing. The philosophies of Taoism (Daoism), Confucianism, and Buddhism each influenced subsequent medical developments in China. Mystical spiritual beliefs were combined with physical observations of clinically effective treatments. Metaphorical references to light and dark, sun and moon, fire and earth, metal and wood, all contributed to the Chinese understanding of disease. The microcosm of mankind was related to the macrocosm of the universe, with systematic correspondences between the visible and the invisible worlds.

Human pain and pathology were attributed to disturbances in the flow of qi (pronounced chee) along distinct energy channels called meridians. The circulation of this vapor-like, invisible energy through 'holes' in the skin was said to be facilitated by the insertion of needles into specific acupuncture points. The *Huang-di-nei-jing* text attributed to the Yellow Emperor had referred to 360 such holes as suitable for needling (Veith 1972). The emperor Huang Di purportedly came to power in 2698 BCE, and the *Nei Jing* was presented as a dialogue between the emperor and his health minister. However, current scholars suggest that the *Nei Jing* was actually written much later, in the second century BCE. The first recording of medical information by carvings on flat stones, turtle shells, and bamboo slips did not occur until 400 BCE, and paper was not invented in China until 150 CE. Acupuncture needles were first made from bones and stones, and later from bronze metal. In 1027 CE, a full-sized figure of a man was cast in bronze to guide medical practitioners. Over the surface of this bronze statue was located a series of holes that corresponded to the locations of acupuncture points. Oriental medicine was a complete treatment system based upon the empirical findings that examined the clinical efficacy of needling acupuncture points.

Dr Gong Sun Chen of the Nanjing Medical University, has reported that the *Nei Jing* included numerous references to the theories and experiences of using a unique ear channel (Chen & Lu 1999). The ear was not considered an isolated organ, but was intimately connected with all organs of the body, the five viscera (liver, heart, spleen, lungs, kidneys), and the six bowels (stomach, small intestine, large intestine, gall bladder, bladder, and san jiao or triple warmer). Examinations of the ear were used as a means for predicting the onset of ailments and the recovery from disease. Ear acupuncture could treat a variety of diseases, such as headaches, eye disease, asthma, facial nerve paralysis, and stomach aches.

According to Huang (1974), the *Nei Jing* further stated that 'blood and air (subsequently translated as blood and qi) circulate through 12 meridians and their 365 accessory points to infiltrate the five sense organs, seven orifices, and brain marrow.' Huang further noted that 'the meridian of the lesser yang of the hand were said to extend upwards toward the back of the ear. The meridian of the great yang of the foot extended to the upper corner of the ear. The circulation of the six yang meridians passed directly through the ear, while the six yin meridians joined with their corresponding yang meridians.' Inspection of ancient and modern Chinese acupuncture charts demonstrates that only the Stomach, Small Intestines, Bladder, Gall Bladder and San Jiao meridian channels circulate in front of or around the external ear, with the Large Intestines channel running nearby.

The phrase 'meridian channel' is actually redundant, but both words will sometimes be used in the present text to highlight the Oriental medicine application of these terms. Some meridians are referred to as fu channels that carry yang energy to strengthen the protection of the body from

external pathogenic factors and from stress. The zang meridian channels, which carry yin energy, originate or terminate in the internal organs of the chest and abdomen, but they do not project to the head or ear. By connecting to their corresponding fu meridian when they came together at the hand or foot, the zang channels were able to interact with acupuncture points on the ear. The microcosm of the ear was said to have energetic correspondence with the macrocosm of the whole body, and the microcosm of the whole body was said to have cosmic correspondence with the macrocosm of the universe. The Chinese perceived health disorders as a function of the relationships of these energetic systems, rather than a causal effect of specific germs producing specific diseases.

Various ear treatments for curing diseases were traced by Huang (1974) to the 281 CE Chinese text, *Prescriptions for emergencies*. Another ancient text, *Thousand gold remedies* written in 581 CE, stated that jaundice and a variety of epidemics were reportedly cured by applying acupuncture and moxibustion to the upper ridge in the center of the ear. *The study of eight special meridians*, published in 1572, contained reports that a network connecting all the yang meridians also passed through the head to reach the ear. The ear was thus said to be the converging place of the main meridians. It was recorded in *Mystical gate: pulse measurement* that air (qi) from the kidney is connected with the ear. In 1602, *Criteria in diagnosis and treatment* suggested that when air in the lungs is insufficient, the ear turns deaf. This work stated that:

Lung controls air (qi), which spreads all over the body to converge in the ear. The ear is connected to every part of the body because of the ceaseless circulation of air (qi) and blood through these meridians and vessels. The outer and inner branch vessels serve the function of connecting with the outer limbs to form the harmonious relationship between the ear, the four limbs, and a hundred bones. The ear joins with the body to form the unified, inseparable whole, a theory which forms the basis for diagnosis and treatment.

Also printed in 1602, *The compendium of acupuncture and moxibustion* recorded that cataracts could be cured by applying moxibustion to the ear apex point. This book also described using one's two hands to pull down the ear lobes to cure headaches. As late as 1888, during the Qing dynasty, the physician Zhang Zhen described in *Li Zhen Anmo Yao Shu* how the posterior auricle could be divided into five regions, each region related to one of the five zang organs. The central posterior auricle was said to correspond to the lung, the lateral area to the liver, the middle area to the spleen, the upper area to the heart, and the lower area to the kidney. Massaging the ear lobe was used to treat the common cold, needling the helix could expel wind and relieve backaches, while stimulation of the antihelix and antitragus was used to treat headaches due to wind-heat and pathogenic fire.

During the medieval period in Europe, Western physicians cut open major veins on seriously sick patients in order to release 'evil spirits' that were said to cause disease. Chinese doctors conducted a much less brutal form of blood letting by pricking the skin at acupoints to release just a few droplets of blood. One of the primary loci used for blood letting was to prick the top of the external ear. Throughout their medicine, Chinese doctors sought to balance the flow of qi and blood. By draining surpluses of spirit, or by supplementing depletions of subtle energies, Oriental medicine provided healthcare to the Chinese masses throughout the several thousand years of the Han, Sui, Tang, Song, Mongol, Ming, and Manchu dynasties. However, widespread use of acupuncture in China diminished in the 1800s, when China became dominated by imperialist powers from Europe. In 1822, the minister of health for the Chinese Emperor commanded all hospitals to stop practicing acupuncture, but its use nonetheless continued. While the application of Western medical procedures became increasingly prominent in the large cities of China, healthcare practices in rural China changed much more slowly.

There was a subsequent erosion of faith in traditional Oriental medicine following the defeat of Chinese military in the Opium Wars of the 1840s. British merchants wanted to purchase Chinese tea and silk, but they were concerned about the huge trade imbalance created when the Chinese did not want to buy European products in return. Their solution was opium. Although the emperor forbade its importation, smugglers were hired to sneak opium into China. When Chinese officials burned a warehouse of the British East India Company stocked with smuggled opium, the British parliament claimed an 'attack on British territory' as justification for the declaration of war. The Chinese should probably have imported European weapons, for they were soundly defeated in the

opium wars with Great Britain. They were forced to pay substantial sums of currency for the lost British opium and to surrender the territory of Hong Kong. Opium houses then proliferated and the Chinese lost a sense of confidence in uniquely Oriental medical discoveries. Because the Occidental traders had more powerful weapons than the Chinese, it came to be believed that Western doctors had more powerful medicine. The Chinese were impressed by Western science and by European biological discoveries. Antiseptic practices that had been introduced from Europe greatly reduced post-surgical infections. The germ theory of Western medicine came to have greater relevance for health than the energetic theory of qi. Jesuit missionaries in China utilized the dissemination of Western medications as a manifestation of the superiority of their Christian faith. The Chinese government attempted to suppress the teaching of Oriental medicine as unscientific, issuing prohibitory edicts in 1914 and again in 1929, yet the practice of acupuncture continued.

By the 1940s, however, Europe became embroiled in World War II, and Marxism became a more influential Western import to China than Christianity. After the Communist revolution in 1949, Mao Tse Tung called for a revitalization of ancient Chinese methods for health and healing. Acupuncture had declined in the large cities of China, and the main hospitals were primarily based on conventional Western medicine. However, doctors in the rural countryside of China had maintained the ancient ways of healing. It was from these rural routes that Mao derived his military power, and it ultimately led to a renewed interest in classical Oriental practices of acupuncture, moxibustion, and herbs. However, in addition to its condemnation of bourgeois Western medicine, Communist atheists also rejected the metaphysical, energetic principles of acupuncture. Maoist dogma encouraged the development of the more scientific *Dialectic of Nature* and what is now known as Traditional Chinese Medicine (TCM). Nonetheless, the actual practice of acupuncture still used the energetic concepts of yin and yang, the five elements of fire, earth, wood, water, and metal, and the eight principles for differentiating medical syndromes.

It was fortuitous that the discoveries of the ear reflex charts by Paul Nogier arrived in China in 1958, at this time of renewed interest in classical acupuncture techniques. The so-called barefoot doctors, high school graduates given 6 months of medical training, were also taught the techniques of ear acupuncture, and were able to bring healthcare to the large populations in urban and rural China. With little plastic models of the inverted fetus mapped onto the ear, it was easy to learn to needle just the part of the ear that correspond to where the patient reported pain. Although ear acupuncture was used across China prior to learning of Nogier's treatise on the subject, it was not practiced in the same manner. In 1956, for example, hospitals in Shandong Province reported that they had treated acute tonsillitis by stimulating three points on the ear helix chosen according to folk experience. Gong Sun Chen (1995) has confirmed that it was only after the Chinese learned of Nogier's inverted fetus picture of auricular points that great changes in the practice of ear acupuncture occurred. The Nanjing division of the medical unit of Chinese military enlisted acupuncturists from all over the country to examine and to treat thousands of patients with this somatotopic auricular acupuncture protocol. Their report on the success of ear acupuncture for several thousand different types of patients provided scientific replication of Nogier's work and led to broad inclusion of this approach in traditional Chinese medicine.

Another historian of Chinese medicine, Huang (1974), also stated that 1958 saw 'a massive movement to study and apply ear acupuncture across the nation. As a result, general conclusions were drawn from several hundred clinical cases, and the scope of ear acupuncture was greatly enlarged.' She continues: 'however, certain individuals began to promote the revisionist line in medicine and health. They spread erroneous ideas, such as Chinese medicine is unscientific and insertion of the needle can only kill pain but not cure disease. Since the Cultural Revolution dispelled these erroneous ideas, ear acupuncture has been again broadly applied all over the country.' Huang observed that:

The method of ear acupuncture is based on the fundamental principle of the unity of opposites. The human being is regarded as a unified, continually moving entity. Disease is the result of struggle between contradictions. By applying Chairman Mao's brilliant philosophical ideas, we can combine the revolutionary spirit of daring to think and daring to do with the scientific method of experimentation in the exploration and application of ear acupuncture.

To modern readers, it might seem unusual that Communist political rhetoric is integrated within a medical text, but it must be remembered that the Cold War in the 1970s greatly isolated China from Western influences. Huang also included more metaphysical influences in Chinese thought, citing the text *Mystical gate: treatise on meridians and vessels*: 'the ear is connected to every part of the body because of the ceaseless circulation of energy and blood through these meridians and vessels. The ear joins with the body to form the unified, inseparable whole.'

Medical research in China in the years since the introduction of Nogier's somatotopic auriculotherapy discoveries has focused on the relationship of ear acupuncture to classical meridian channels, the use of ear seeds as well as needles for the treatment of different diseases, and the use of auricular diagnosis as a guide for recommending Chinese herbal remedies. Medical conditions were grouped into three categories:

1. those which can be cured by auricular acupuncture alone
2. those whose symptoms can be at least partially alleviated by auriculotherapy
3. those where improvement is seen only in individual cases.

Auricular points in China are selected according to several factors: the corresponding body regions where there is pain or pathology; the identification of pathologically reactive ear points tender to touch; the basic principles of traditional Chinese medicine; physiological understanding derived from modern Western medicine; and the results of experiments and clinical observations.

Having used ear acupuncture for postoperative symptoms, Wen & Cheung (1973) observed that opiate addicted patients no longer felt a craving for their previously preferred drug. The Shen Men and Lung ear points used for acupuncture analgesia also affected drug detoxification. Wen subsequently studied a larger sample of opium and heroin addicts who were given auricular electroacupuncture. Bilateral, electrical stimulation between the Lung points in the concha led to complete cessation of drug use in 39 of 40 addicts. Given that it was Western merchants who supported widespread opium abuse in China, it is intriguing that a Chinese auriculotherapy treatment for drug addiction is now one of the most widely disseminated applications of acupuncture in the West.

There are distinct discrepancies between Oriental and Western ear charts. Distortions may have appeared in the transmission of ear maps from France to Germany to Japan to China. Inaccuracies could have been due to mistranslation between European and Asian languages. Moreover, drawings of the convoluted structure of the auricle have been the source of many discrepancies regarding the anatomical areas of the ear being described. The Chinese, however, maintain that the ear acupuncture points used in their treatment plans have been verified across thousands of patients. Chinese conferences completely devoted to research investigations of ear acupuncture were held in 1992, 1995 and 1998, and the Chinese government authorized a committee to standardize the name and location of auricular points. This committee designated the localization of 91 auricular points, standardized along guidelines established by the World Health Organization in 1990 (Zhou 1995, 1999).

1.5 Auriculotherapy and auricular medicine in the West

Although acupuncture was mostly unknown in the United States until President Nixon visited China in 1972, acupuncture had been introduced to Europe several hundred years earlier. A 16th-century physician working for the Dutch East India Company, Dr Willem Te Rhyne, was one of the first Western practitioners to describe the impressive curative powers of acupuncture. Medical interest in acupuncture waxed and waned in Europe over the following centuries. It would elicit great excitement, then be dismissed and given up as unreliable folk medicine, yet subsequently be rediscovered as a new method of healing. In the 19th century, the French Académie des Sciences appointed a commission to study acupuncture. Gustaf Landgren of Sweden conducted acupuncture experiments on animals and on human volunteers at the University of Uppsala in 1829. Sporadic reports of the use of acupuncture needles were included in European medical writings for the next several centuries.

It was in the early 1900s that interest in acupuncture was once again revived in Europe. From 1907 to 1927, Georges Soulié de Morant served as the French consul to China. Stationed in Nanjing and Shanghai, he became very impressed by the effectiveness of acupuncture in treating a cholera



A



B

Figure 1.2 Participants at the 1990 World Health Organization meeting on auricular acupuncture nomenclature, Lyons, France (A). The enlargement below (B) shows Dr Paul Nogier at the far left of the front row, his son Dr Raphael Nogier second from the right, Dr Frank Bahr at the far right of the second row, and Dr Terry Oleson fourth from the left of the second row.

epidemic and many other diseases. Soulié de Morant translated the *Nei Jing* into French and published *L'Acupuncture chinoise*. He taught Chinese medical procedures to physicians throughout France, Germany, and Italy and is considered the 'Father of Acupuncture in Europe'. Of intriguing historical note, the French *Journal des connaissances medico-chirurgicales* reported back in 1850 that 13 different cases of sciatic pain had been treated by cauterization with a hot iron applied to the ear. Only one of the patients failed to dramatically improve. It was not until a century later, however, that the Lyons physician Paul Nogier rediscovered this remarkable ear treatment.

In 1950, Nogier (1972) was 'intrigued by a strange scar which certain patients had in the external ear.' He found that the scar was due to a treatment for sciatica involving cauterization of the antihelix by Mme Barrin, a lay practitioner living in Marseille, France. The patients were unanimous in stating that they had been successfully relieved of sciatic pain within hours, even minutes, of this ear cauterization. Mme Barrin had learned of this auricular procedure from her father, who had learned it from a Chinese mandarin. Nogier stated: 'I then proceeded to carry out some cauterizations myself, which proved effective, then tried some other, less barbarous processes.' A simple dry jab with a needle 'also led to the relief of sciatica if given to the same antihelix area, an area of the ear which was painful to pressure.' Nogier was experienced in the use of acupuncture needles, as he had previously studied the works of Soulié de Morant. Another mentor for Nogier was the Swiss homeopathic physician, Pierre Schmidt, who gave massages, spinal manipulations, and acupuncture as part of his naturopathic practice. Some critics have contended that Nogier developed his ear maps based on translation of Chinese writings, but as stated previously, the Chinese themselves acknowledge that it was only after they learned of Nogier's findings did they develop their own modern ear charts.

A quotation attributed to the physiologist Claude Bernard further inspired Nogier:

It has often been said, that in order to discover things, one must be ignorant. It is better to know nothing than to have certain fixed ideas in one's mind, which are based on theories which one constantly tries to confirm. A discovery is usually an unexpected connection, which is not included in some theory. A discovery is rarely logical and often goes against the conceptions then in fashion.

Nogier discussed his antihelix cauterization experiences with another physician, René Amathieu, who told him 'the problem of sciatica is a problem of the sacrolumbar hinge'. Nogier conjectured that the upper antihelix area used to treat sciatica could correspond to the lumbosacral joint, and

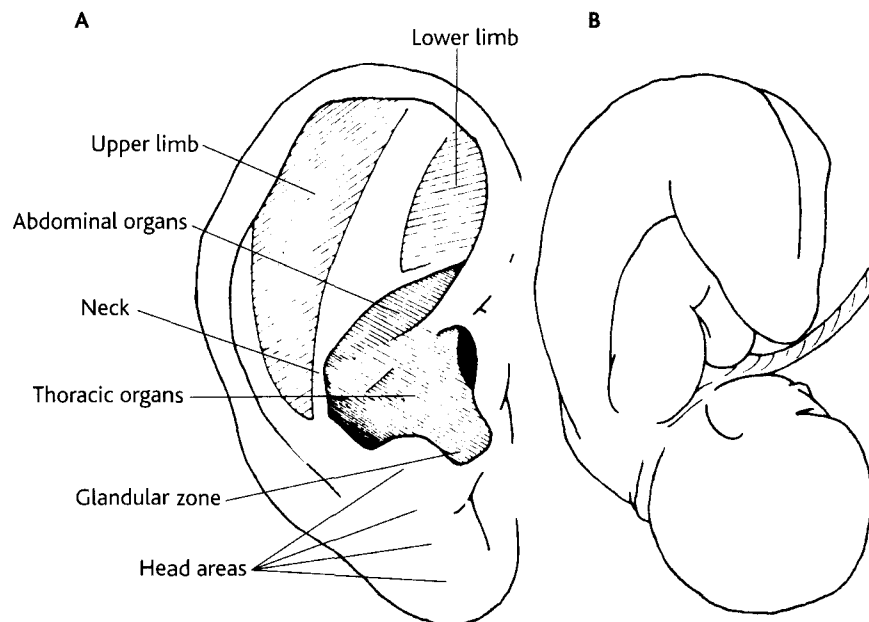


Figure 1.3 Initial ear charts developed by Nogier show somatotopic correspondences to particular auricular regions (A) and the inverted fetus pattern related to the external ear (B). (Reproduced from Nogier 1972, with permission.)

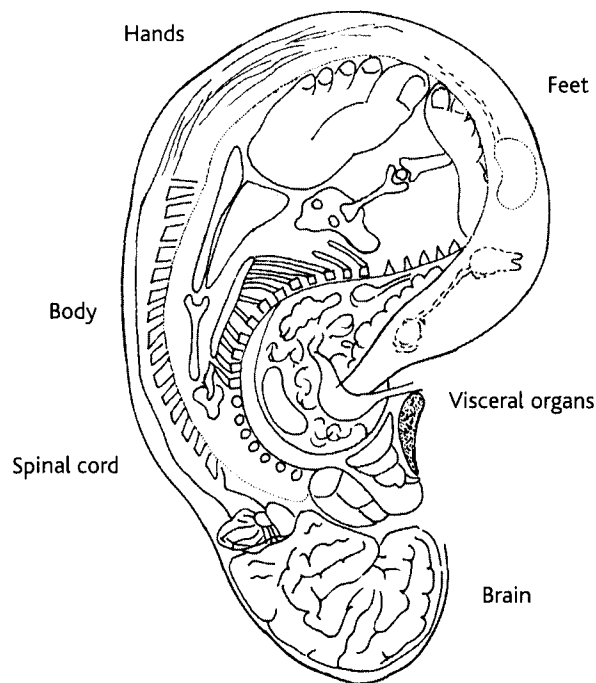


Figure 1.4 Nogier diagram of inverted musculoskeletal body, internal organs and the nervous system represented on the auricle. (Reproduced from Nogier 1972, with permission.)

the whole antihelix could represent the remaining spinal vertebrae, but upside down. The head would have its correspondence lower on the auricle. The ear could thus roughly resemble an upside down embryo in utero. Nogier subsequently obtained pain relief for other problems. Using electrical microcurrents imperceptible to the patient, Nogier concluded that the pain relief was not due to a nervous reaction to the pain from needle insertion, but was in fact caused by the stimulation of that area of the ear.

‘To discover something,’ Nogier observed, ‘is to accomplish one stage of the journey. To push on to the bottom of this discovery is to accomplish another.’ In 1955, Nogier mentioned his discoveries to Dr Jacques Niboyet, the undisputed master of acupuncture in France. Niboyet was struck by this novel ear reflex zone, which had not been described by the Chinese. Niboyet encouraged Nogier to present his findings to the Congress of the Mediterranean Society of Acupuncture in February 1956. One of the attendees of this meeting, Dr Gérard Bachmann of Munich, published Nogier’s findings in an acupuncture journal in 1957, which had worldwide circulation, including the Far East. From these translations into German, Nogier’s ear reflex system was soon known by acupuncturists in Japan, and was subsequently published in China, where it became incorporated into their ear acupuncture charts. Nogier acknowledged in his own writings that the origins of auriculotherapy might have begun in China or in Persia. The primary change that he brought to auricular acupuncture in 1957 was that these ear acupoints were not just a scattered array of different points for different conditions, but that there was a somatotopic inverted fetus pattern of auricular points that corresponded to the pattern of the actual physical body.

Nogier (1972) limited his classic *Treatise of auriculotherapy* to the spinal column and the limbs because the musculoskeletal body is projected onto the external ear in a clear and simple manner.

The therapeutic applications are free from ambiguity and ought to allow the beginner to achieve convincing results. It is possible to palpate for tender areas of the ear and readily notice how they correspond to painful areas of the body. The first stages of learning the map of the ear consist of getting to know the morphology of the external ear, its reflex cartography, and how to treat simple pains of traumatic origin. Each doctor needs to be convinced of the efficacy of this ear reflex method by personal results that he or she is right. They are indeed fortunate people who can convince themselves simply by noting the improvement of a symptom they themselves have experienced.

After he traced the image of the spine and the limbs, Nogier examined thoracic organs, abdominal organs, and central nervous system projections onto the ear. He needed a few years, however, to understand that the ear had a triple innervation, and that each innervation supported the image of an embryological derivative: endoderm, mesoderm, and ectoderm.

These embryological correspondences to the ear were described by Nogier (1968) in another text, *The handbook to auriculotherapy*, with illustrated anatomical drawings by his friend and colleague, Dr René Bourdiol. By 1975, Nogier had created a teaching structure for training in auricular medicine, establishing the organization *Group Lyonnaise Études Médicales* (GLEM), translated into English as the Medical Studies Group of Lyons. The journal *Auriculo-medicine* was also launched in 1975, providing a professional vehicle for disseminating clinical studies on auricular medicine. That same year, Nogier, Bourdiol and the German physician Frank Bahr combined their efforts to publish an informative wall chart on ear localizations, *Loci auriculo-medicinae*. Dr Bahr went on to organize the *German Academy of Auricular Medicine* (Bahr 1977), which has attracted over 10 000 German physicians to the practice of auricular medicine. In 1981, however, Bourdiol disassociated himself from Nogier, partly because he was not comfortable with some of Nogier's more esoteric, energetic explanations of healing. Consequently, Bourdiol (1982) wrote his own book, *Elements of auriculotherapy*. This work remains one of the most anatomically precise texts of the relationship of the auricle to the nervous system and includes detailed pictures of the external ear and its representation of the musculoskeletal system and visceral organs. The innovative collaborations between Nogier and Bourdiol had lasted from 1965 until 1981, but their collegial association unfortunately was at an end.

Nogier turned his efforts in a different direction with the 1981 publication of *De l'auriculothérapie à l'auriculomédecine*, translated into English as *From auriculotherapy to auriculomedicine* in 1983. In this work, Nogier presented his theory of three somatotopic phases on the ear and he discussed his concepts of electric, magnetic, and reticular energies. The most prominent feature of this auriculomedicine text, though, featured expanded description of Nogier's 1966 discovery of a new pulse, the *réflexe auriculo cardiaque* (RAC). This pulse reaction was later labeled the vascular autonomic signal (VAS), as it was related to a more general reactivity of the vascular system. In honor of its discoverer, this pulse reaction has also been called the *réflexe artériel de Nogier* by Bourdiol and the *Nogier reflex* by Bahr. For the purposes of this text, the Nogier vascular autonomic signal will be abbreviated as N-VAS, so as not to confuse it with a well known pain assessment measure, the visual analogue scale or VAS. The N-VAS arterial waveform change becomes distinct in the pulse a few beats after stimulation of the skin over the ear. Similar autonomic reactions to touching sensitive ear points have also been reported for changes in the electrodermal galvanic skin response and in pupillary constriction. Monitoring this N-VAS radial pulse reaction became the fundamental basis of auriculomedicine. Nogier suggested that each peripheral stimulation 'perceived at the pulse is at first received by the brain, then transmitted by the arterial tree.' It seemed that the ear produced a sympathetic nervous system reflex, initiating a systolic cardiac wave that reflected off the arterial wall, followed by a returning, retrograde wave. This reflex established a stationary vascular wave, which could be perceived at the radial artery. Palpation of the N-VAS was used to determine changes in pulse amplitude or pulse waveform that were not related to fluctuations in pulse rate. The N-VAS has been attributed to a general vascular–cutaneous reflex that can be activated by tactile, electrical, or laser stimulation of many body areas.

Considerable confusion was generated when subsequent books on the Nogier phases on the ear seemed to contradict earlier writings. *Points réflexes auriculaires* (Nogier et al. 1987) mapped some anatomical structures onto different regions of the external ear than those described in previous publications by Nogier. The most detailed presentation of the three phases was described by Nogier et al. (1989) in *Compléments des points réflexes auriculaires*. This text continued to show that in the second phase, the musculoskeletal system shifted from the antihelix to the central concha, whereas in the third phase, musculoskeletal points were located on the tragus, antitragus, and ear lobe. However, Nogier reversed some of the description from his previous writings. In contrast to the presentation of the phases in the 1981 book *De l'auriculothérapie à l'auriculomédecine*, in 1989 he switched the lateral orientation of the second phase spine and the vertical orientation of the third phase spine. Although Nogier had developed the three-phase model as a means of reconciling the differences between his findings and that of the Chinese, it was a drastic departure

from the original, inverted fetus picture for the ear. The suggestion of different somatotopic patterns on the same auricular regions bothered many of Nogier's followers.

Widespread dissension within the European auriculomedicine movement occurred by the 1990s (Nogier 1999). First, the three phase theory was not well accepted by many auriculomedicine practitioners in France and Germany. Second, Nogier discussed the importance of 'reticular energy,' without specifically defining what it was. He explored the chakra energy centers of ayurvedic medicine, which seemed to some to be unscientific. The energetic theory of Paul Nogier had also been adopted by a non-medical school that used Nogier's name to develop more esoteric philosophies of auricular reflexotherapy, consequently threatening the professional credibility of auricular medicine. Many acupuncturists in England, Italy, and Russia followed the Chinese charts describing the localization of ear reflex points, rather than the ear charts developed by Nogier. A very personal account of the development and progress of auriculomedicine in Europe was presented in the book *The man in the ear*, written by Paul Nogier with his son Raphael Nogier (1985). Also a physician, Raphael Nogier has become one of Europe's most prominent figures in the continued training of doctors in the practice of auricular medicine.

Publications at the UCLA Pain Management Center sought to integrate the Chinese ear charts with Nogier's systems for mapping the somatotopic image on the ear (Oleson & Kroening 1983a, 1983b). The World Health Organization held its 1990 meeting on auricular acupuncture nomenclature in Lyons, France, partly to honor Nogier's pioneering discoveries. After several previous WHO sessions that had been held in Asia, this European gathering sought to bring together different factions of the acupuncture community. At a 1994 international congress on auricular medicine in Lyons, Nogier was described as the 'Father of Auriculotherapy.' Paul Nogier died in 1996, leaving an amazing scientific inheritance. He had contributed the unique discovery of somatotopic correspondences to the external ear, developed a new form of pulse diagnosis, and expanded medical appreciation of the complex, subtle energies of the body.

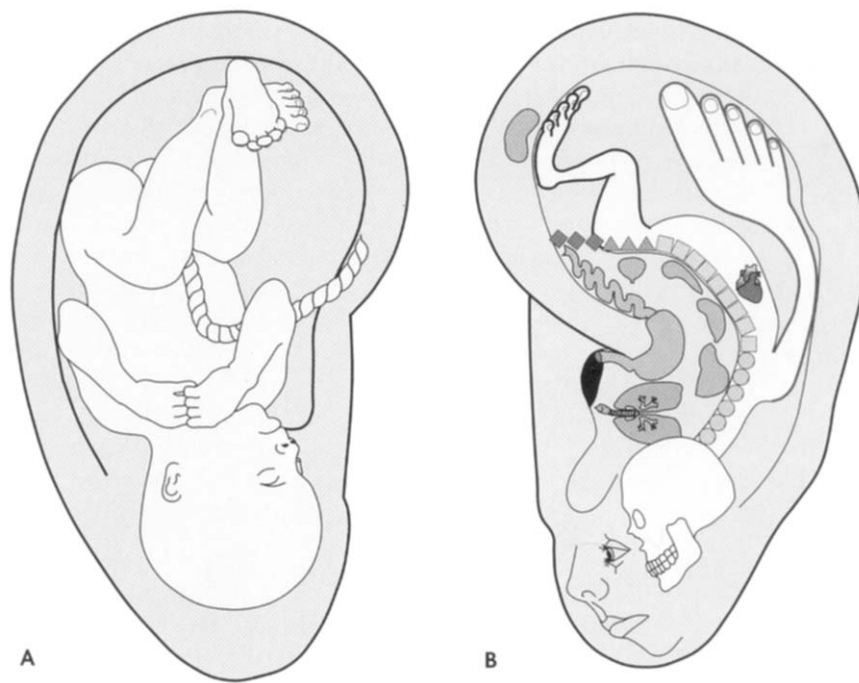


Figure 1.5 Author's depiction of alternative perspectives of inverted fetus image (A) and inverted somatotopic pattern (B) on the auricle.

1.6 Comparison of ear acupuncture to body acupuncture

Historical differences: Both ear acupuncture and body acupuncture had their historical origins in ancient China. However, body acupuncture has remained essentially unchanged in its perspective of specific meridian channels, whereas Chinese ear acupuncture was greatly modified by the inverted fetus discoveries of Paul Nogier in Europe. Further research has yielded even newer developments in auricular medicine.

Acupuncture meridians: Body acupuncture is based upon a system of 12 meridians, six yang or fu meridians and six yin or zang meridians, which run along the surface of the body as lines of energy forces. Ear acupuncture is said to directly connect to the yang meridians, but it is not dependent upon these yang meridians to function. The ear is a self-contained microsystem that can affect the whole body. In traditional Chinese medicine, the head is more associated with yang energy than are lower parts of the body. The Large Intestines, Small Intestines, and San Jiao meridians run from the arm to the head, and the Stomach, Bladder, and Gall Bladder meridians run from the head down the body. Yin meridians, however, do not connect directly to the head, thus they have no physical means to link to the ear.

Pathological correspondence: The main principle in auriculotherapy is a correspondence between the cartography of the external ear and pathological conditions in homologous parts of the body. Acupuncture points on the auricle only appear when there is some physical or functional disorder in the part of the body represented by that region of the ear. There is no evidence of an auricular point if the corresponding part of the body is healthy. Acupuncture points on the body can almost always be detected, whether there is an imbalance in the related meridian channel or not. While body acupuncture can be very effective in relieving a variety of health problems, the organ names of different meridian channels may not be necessarily related to any known pathology in that organ.

Somatotopic inversion: In body acupuncture, the meridian channels run throughout the body, with no apparent anatomical logic regarding the relationship of that channel to the body organ represented by that meridian. Acupoints on the Large Intestines meridians and the Kidney meridians occur in locations far removed from those specific organs. In ear acupuncture, however, there is an orderly, anatomical arrangement of points, based upon the inverted fetus perspective of the body. The head areas are represented toward the bottom of the ear, the feet toward the top, and the body in between. As with the somatotopic map in the brain, the auricular homunculus devotes a proportionally larger area to the head and hand than to the other parts of the body. The size of a somatotopic area is related to its functional importance, rather than its actual physical size.

Distinct acupuncture points: The acupuncture points are anatomically defined areas on the skin. The original Chinese pictographs for acupoints indicated that there were holes in the skin through which qi energy could flow. They are set at a fixed, specific locus in body acupuncture, and can almost always be detected electrically. In ear acupuncture, however, an acupuncture point can be detected only when there is some pathology in the corresponding part of the body, which that ear acupoint represents. A dull, deep, aching feeling called 'de qi' often accompanies the stimulation of body acupuncture points, but this sensation is not usually observed by stimulating ear acupuncture points. A sharp, piercing feeling more often accompanies auricular stimulation. The exact location of the ear point may shift from day to day, as it reflects different stages of the progression or healing of a disorder. A prominent difference between the systems is that body acupuncture points lie in the tendon and muscular region deep below the skin surface, whereas ear acupoints reside in the shallow depth of the skin itself.

Increased tenderness: Paul Nogier observed that there are some cases of patients with an exceptional sensitivity in which mere palpation of certain parts of the ear provoked a pronounced pain sensation in the corresponding body region. This observation can be repeated several times without the phenomenon diminishing, allowing the distinct identification of the connection which exists between such ear points and the periphery. The tenderness at an ear acupoint increases as the degree of pathology of the corresponding organ worsens, and the tenderness on the ear decreases as the health condition improves. There is not always a small, distinct acupoint, but sometimes a broad area of the ear where there is tenderness.

Decreased skin resistance: In both body and ear acupuncture, the acupuncture points are localized regions of *lowered skin resistance*, small areas of the skin where there is a decrease in opposition to the flow of electricity. Sometimes electrodermal activity is inversely stated as *higher skin conductance*, indicating that there is easy passage of electric current. The technology of recording this electrical activity from the skin has been used in the fields of psychology and biofeedback, and was originally described as the galvanic skin response (GSR). Electrical resistance and electrical conductance measure the exact same electrodermal phenomena, but they show it as opposite changes, one increasing from baseline activity while the other decreases. When pathology of a body organ is represented at its corresponding auricular point, the electrodermal conductivity of that ear point rises even higher than normal. The conductance in the flow of electricity increases as the pathology in the body increases. As the body organ becomes healthier, the electrodermal conductance of that ear point returns to normal levels. Electrodermal point detection is one of the most reliable methods for diagnosing the location of an auricular point.

Ipsilateral representation: In both body and ear acupuncture, unilateral, pathological areas of the body are more greatly represented by acupuncture points on the same side of the body as the body organ than by points on the opposite side of the body.

Remote control sites: Ear points are found at a considerable distance from the area of the body where the symptom is located, such as pain problems in the ankles, the hands, or the lower back. Even though body acupuncture also includes remote distal acupoints, many body acupoints are stimulated directly over the same body area as where the symptom is located. Auriculotherapy can remotely stimulate a part of the body that is too painful to treat directly. While the body acupoints occur directly within a meridian channel, auricular acupoints serve as remote control centers. The ear points can remotely affect the flow of energy in meridian channels. In this way, ear points can be compared to the way an electronic remote control unit is used to operate a garage door or to switch channels on a television set. Although very small in physical size because of their microchip circuitry, remote control devices can produce pronounced changes in much larger systems. While the auricle is also a physically small structure, its control of the gross anatomy of the body can be quite impressive.

Diagnostic efficacy: Ear acupuncture provides a more scientifically verified means of identifying areas of pain or pathology in the body than do such traditional Chinese medicine approaches as pulse diagnosis and tongue diagnosis. In auricular diagnosis, one can identify specific problems of the body by detecting areas of the ear that are darker, discolored or flaky. Pathological ear points are notably more tender or have higher skin conductance than other areas of the auricle. The subtle changes in auricular diagnosis may identify conditions of which the patient is only marginally aware. A new practitioner's confidence in auriculotherapy is strengthened by the recognition of reactive ear points for health conditions that were not previously reported by a patient.

Therapeutic proof: The second most convincing procedure to verify the existence of the correspondence between the location of auricular points and a particular part of the body is when specific regions of pain are immediately relieved by stimulation of the area of the external ear designated by established wall charts. There are some patients who present with very unusual disorders in a specific region of their anatomy. These exceptional patients have been found to demonstrate reactive points at precisely the predicted area on the auricle. Once treatment is applied to that ear point, the patient's condition is immediately alleviated. At the same time, many patients have diffuse types of pathology that do not provide such convincing demonstrations of selective reactivity. The latter patients have many body regions in pain, contributing to broad regions of the auricle which are sensitive to pressure or are electrically active.

Pulse diagnosis: Both traditional Oriental medicine and auricular medicine utilize a form of diagnosis that involves palpation at the radial pulse on the wrist. Classical acupuncture procedures for examining the pulse require the placement of three middle fingers over the wrist, assessing for subtle qualities in the depth, fullness, and subjective qualities of the pulse. These tactile sensations help to determine conditions of heat, deficiency, stagnation or disorders associated with specific zang-fu organs. The N-VAS involves placement of only the thumb over the wrist. The practitioner discriminates changes in the reaction of the pulse to a stimulus placed on the ear, whereas Oriental doctors monitor the ongoing, steady-state qualities of the resting pulse.

Types of procedures: Body acupuncture and ear acupuncture are often used with each other in the same session, or each procedure can be effectively applied separately. Body acupuncture points and ear acupuncture points can both be stimulated with the use of acupressure massage, acupuncture needles and electroacupuncture. Many patients are afraid of the insertion of needles into their skin, thus they have a strong aversion to any form of needle acupuncture. As an alternative, ear points can be activated by transcutaneous electrical stimulation, laser stimulation, or small metal or seed pellets taped onto the auricle. It is recommended that because auricular acupuncture can work more quickly than body acupuncture, the ear points should be treated first.

Clinical efficacy: Stimulation of ear reflex points and body acupoints seem to be equally effective treatments. Each requires only 20 minutes of treatment, yet each can yield clinical benefits which last for days and weeks. Both body and ear acupuncture are utilized for treating a broad variety of clinical disorders, including headaches, back pain, nausea, hypertension, asthma and dental disorders. Auriculotherapy tends to relieve pain more rapidly than body acupuncture. Ear acupuncture needling is more often the treatment of choice for detoxification from substance abuse than is body acupuncture. Ear acupuncture has been found to quickly relieve postoperative pain, inflammation from joint sprains, pain from bone fractures and the discomfort from gall stones. It readily can reduce inflammations, nausea, itching and fever.

Application to many disorders: Since every organ of the body is represented upon the external ear, auriculotherapy is considered a potential source for alleviating any disease. Ear acupuncture is certainly not limited to hearing disorders or even to problems affecting the head. At the same time, it can be very effective for treating inner ear dizziness and for alleviating headaches. Conditions treated by both ear and body acupuncture include appendicitis, tonsillitis, uterine bleeding, dermatitis, allergic rhinitis, gastric ulcers, hepatitis, hypertension, impotency, hypothyroidism, sunburn, heat stroke, frozen shoulder, tennis elbow, torticollis and low back pain.

Healing, not just pain relief: Both body acupuncture and ear acupuncture do more than just reduce the experience of pain. While pain relief is the more immediate effect, both procedures also facilitate the internal healing processes of the body. Acupuncture and auriculotherapy treat the deeper, underlying condition, not just the symptomatic representation of the problem. They affect deeper physiological changes by facilitating the natural self-regulating homeostatic mechanisms of the body. Stimulating a given acupoint can either diminish overactive bodily functions or activate physiological processes that were deficient.

Ease in mastery of skills: Because auricular reflex points are organized in the same pattern as the gross anatomy of the body, it is possible to learn the basics of ear acupuncture in just a few days. In contrast, body acupuncture requires several years of intensive didactic training and clinical practice. The points on the ear are labeled with the organ or the condition that they are used to treat. While there are over 200 ear acupoints, the few ear points needed for treatment are readily identified by the principle of somatotopic correspondence and by their selective reactivity.

Ease in treatment application: Ear acupuncture is often more economical and convenient to use than body acupuncture, since no disrobing is required of a patient. The ear is easily available for diagnosis and treatment while someone is sitting in a chair or lying down in their street clothes. Insertion of needles into the ear is more simple to apply than is the use of needles at body acupoints. The skin over the auricle is very soft and there is little danger of damaging a critical blood vessel when puncturing the ear skin with a needle, a problem that has occurred with insertion of needles into body acupuncture points.

Side effects: The primary side effect of auriculotherapy is the piercing sensation that occurs at the time needles are inserted into the ear surface or when intense electrical stimulation is applied to an ear acupoint. For sensitive patients, the auricle should be treated more gently, and ear pellets or ear seeds may be used instead of needles. If the stimulation intensity is uncomfortable, it should be reduced. The ear itself can sometimes become tender and inflamed after the treatment. This post-treatment tenderness usually subsides within a short time. As with body acupuncture, some patients become very drowsy after an auricular acupuncture treatment. They should be offered the opportunity to rest for a while. This sedation effect has been attributed to the systemic release of endorphins.

Equipment required: Well-trained acupuncturists can detect body acupuncture points just by their palpation of the surface of the body or by the rotation of an inserted needle. A muscle spasm reflex often seems to 'grab' the acupuncture needle and hold it in place when the tip of the needle is on the appropriate point. Auricular diagnosis, however, is best achieved with an electrical point finder. Furthermore, a transcutaneous electrical stimulation device using microcurrent intensities can often achieve profound clinical effects without the unwanted pain which accompanies needle insertion. Since body acupoints typically lie in the muscle region deep below the skin surface, electrical point finders are often not needed and are not particularly practical for body acupuncture. The auricular skin surface, however, is only a few millimeters deep, and readily available for detection and transcutaneous treatment. Reactive ear reflex points can slightly shift in location from one day to the next, thus the use of an electrical point finder is imperative for precise determination of point localization that particular day. Electrical stimulation of ear acupoints, either by electroacupuncture through inserted needles or by transcutaneous metal probes, produces more effective pain relief than does needle stimulation of the ear.

Theoretical perspectives of auriculotherapy

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- 2.9 Integrating alternative perspectives of auriculotherapy

Theories concerning any aspect of medicine are generally useful for providing a framework and a structure which brings systematic order to diagnostic understanding and treatment applications. With a procedure as seemingly illogical as auriculotherapy, a comprehensive theory becomes necessary to justify why auricular acupuncture should even be considered as a valid therapy. It does not seem common sense that it is possible to treat problems in the stomach or on the foot by stimulating points on the external ear. While it is observably evident that the ear is an organ for hearing, it is not at all obvious that the ear could relate to any other health conditions. Even when shown repeated clinical examples of patients who have benefitted from auricular acupuncture, most persons still remain skeptical, and auriculotherapy may seem more like magic than medicine. The theories which are presented in this section are varied, but they are not mutually exclusive. It may be a combination of all of these theories which ultimately accounts for the clinical observations which have been made. There is no present evidence which proves that one of these theories is more correct than another, but there is more empirical support for the neuroendocrine perspectives. There may develop a new theoretical model which better accounts for the currently available data, but the viewpoints described below are a good beginning to understanding this field.

2.1 Micro-acupuncture systems

The first theory to be considered is the concept that auricular acupuncture is one of several microsystems throughout the human body, a self-contained system within the whole system. In Oriental thinking, there is a systematic correspondence of each part to the whole. The microcosm of each person is interrelated to the macrocosm of the world that surrounds them. Even in the West, medieval European philosophers described the relationship between organs of the microcosm of man to the planetary constellations in the macrocosm of the heavens. Modern medicine accepts that the microorganism of each cell within the body is interrelated to the macroorganism of the whole body. Just as each cell has a protective membrane, flowing fluids, and a regulating center, so too does the whole body have skin, blood, and the brain. For the whole of the organism to be in balance, each smaller system within that organism must be in balance.

Micro- versus macro-acupuncture systems: Dr Ralph Alan Dale (1976, 1985, 1999) of Miami, Florida, was one of the first investigators to suggest that not only the ear, but every part of the gross anatomy can function as a complete system for diagnosis and therapy. Dale has spent several

decades accumulating clinical evidence from China, Japan, Europe and America about these multiple microsystems. The term micro-acupuncture was introduced by Dale at the 1974 Third World Symposium on Acupuncture and Chinese Medicine. Micro-acupuncture is the expression of the entire body's vital qi energy in each major anatomical region. He labeled them micro-acupuncture systems to distinguish them from the traditional macro-acupuncture systems that connect the acupoints distributed throughout the meridians of the body. Every micro-acupuncture system contains a distribution of acupoints that replicate the anatomy of the whole organism. Micro-acupuncture systems have been identified by Dale on the ear, foot, hand, scalp, face, nose, iris, teeth, tongue, wrist, abdomen, back and on every long bone of the body. Each region is a functional microcosm of the traditional energetics of the whole body. Every part of the body exhibits an energetic microcosm through micro-acupoints and micro-channels that reiterate the topology of the body. Figure 2.1 depicts the microsystems that have been identified on the scalp, the ear, the hand, the metacarpal and the foot. Dale has identified specific principles regarding these micro-acupuncture systems that are presented below.

Remote reflex response: Every microsystem manifests neurological reflexes that are connected with parts of the body remote from the anatomical location of that microsystem. These reflexes are both diagnostic and therapeutic. They may be activated by massage, needle acupuncture, moxibustion, heat, electrical stimulation, laser stimulation, magnets or any method used in macro-acupuncture. When pressure is applied to a reactive microsystem point, a pronounced facial grimace or a behavioral withdrawal reflex is evoked. Distinct verbalizations of discomfort indicate that the reactive ear point is tender to touch. The locations of these distant tender spots are not due to random chance, but are in fact related to a neurological reflex pattern that is centrally mediated.

Somatotopic reiteration: The microsystem reflex map of the body repeats the anatomical arrangement of the whole body. The term 'soma' refers to the word body, and 'topography' refers to the mapping of the terrain of an area. Microsystems are similar to the somatotopic responses in the brain, where a picture of a homunculus, a 'little man,' can be identified by brain mapping studies. Figure 2.2 shows the somatotopic homunculus image that is related to different regions of the brain. It is not the actual bone or muscle which is represented on the brain. Rather, it is the movement activity of that area of the body which is monitored by the brain. Such is also the case with microsystem points, which indicate the pathological functioning of an organ, not the anatomical structure of that organ.

Somatotopic inversion: In some microsystems, the reflex topology directly corresponds to the upright position of the body, whereas in other microsystem maps, the body is configured in an inverse order. In the auriculotherapy microsystem, the reflex pattern resembles the inverted fetus in the womb. With the hands pointed downwards and the toes stretched out, the hand and foot reflexology systems are also inverted. The scalp microsystem is also represented upside down, whereas the medial microsystems of the abdomen, back, face, nose and lips are all oriented in an upright pattern. The tongue and teeth microsystems are presented horizontally.

Ipsilateral representation: Microsystems tend to have bilateral effects, but they are usually more reactive when the micro-acupoint and the area of body pathology are ipsilateral to each other, on the same side of the body. Only the scalp microsystem, which corresponds to the underlying somatosensory cerebral cortex, exhibits reactive acupoints on the side of the scalp that is contralateral to the side of body pathology. For the auricular microsystem, a condition on the right side of the body would be represented on the right ear, whereas a problem on the left side of the body would be reflected on the left ear. Actually, each region of the body bilaterally projects to both the right and left ear. Auricular representation is simply stronger on the ipsilateral ear than the contralateral ear.

Bi-directional connections: Pathology in a specific organ or part of the body is indicated by distinct changes in the skin at the corresponding microsystem point, while stimulating that point can produce changes in the corresponding part of the body.

Organo-cutaneous reflexes: In this type of reflex, pathology in an organ of the body produces an alteration in the cutaneous region where that corresponding organ is represented. Localized skin changes may include increased tenderness on palpitation, altered blood flow, elevated temperature, changes in electrodermal activity, changes in skin color or alterations in skin texture. These skin reactions are diagnostically useful for all the microsystems, but because of the risks involved with treatment, the tongue, iris and pulse microsystems are used almost exclusively for diagnosis.

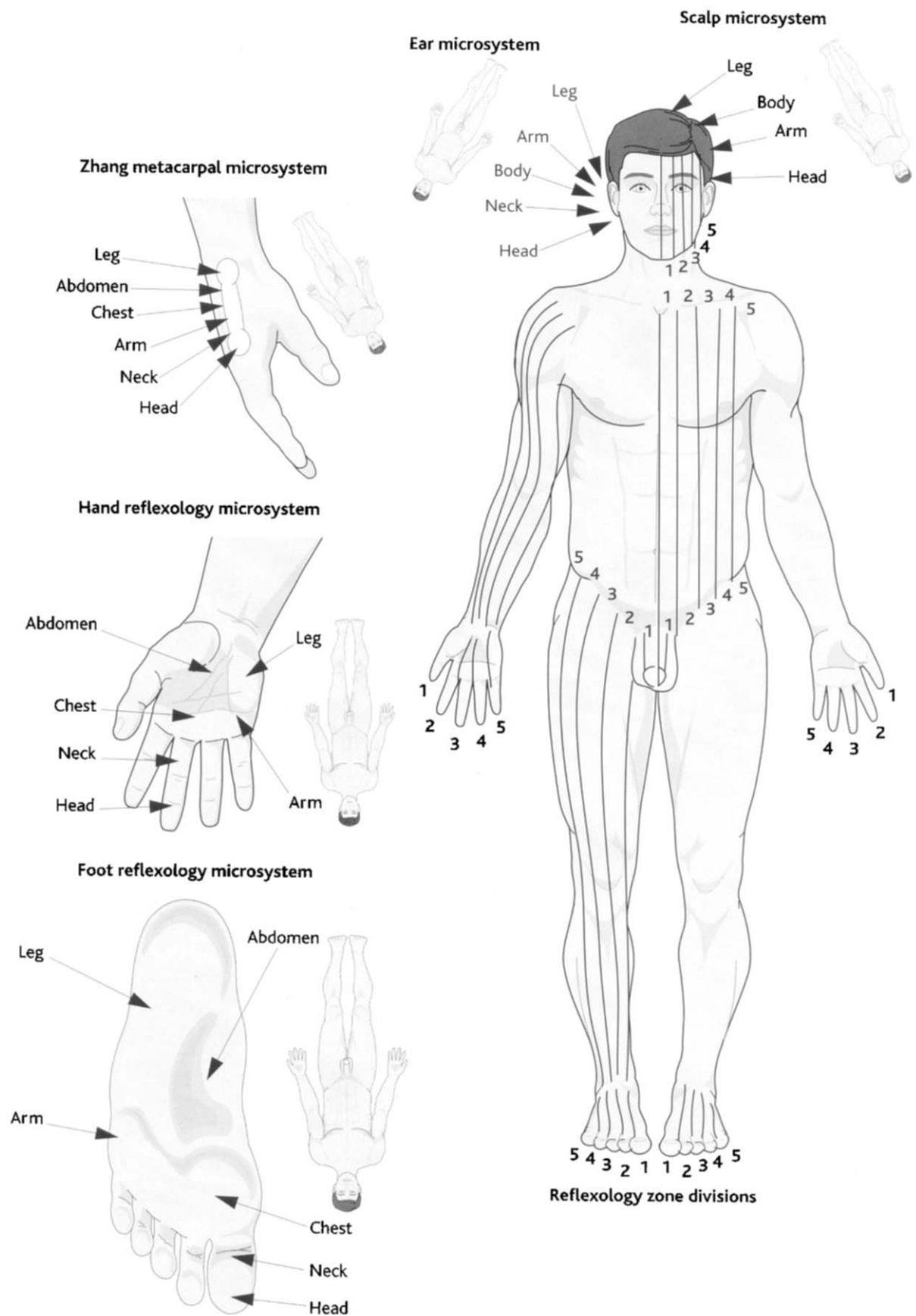


Figure 2.1 Microsystems that have been identified on the scalp, ear, hand, metacarpal bone and foot, and the five zones of the body used in reflexology. (From Life ART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

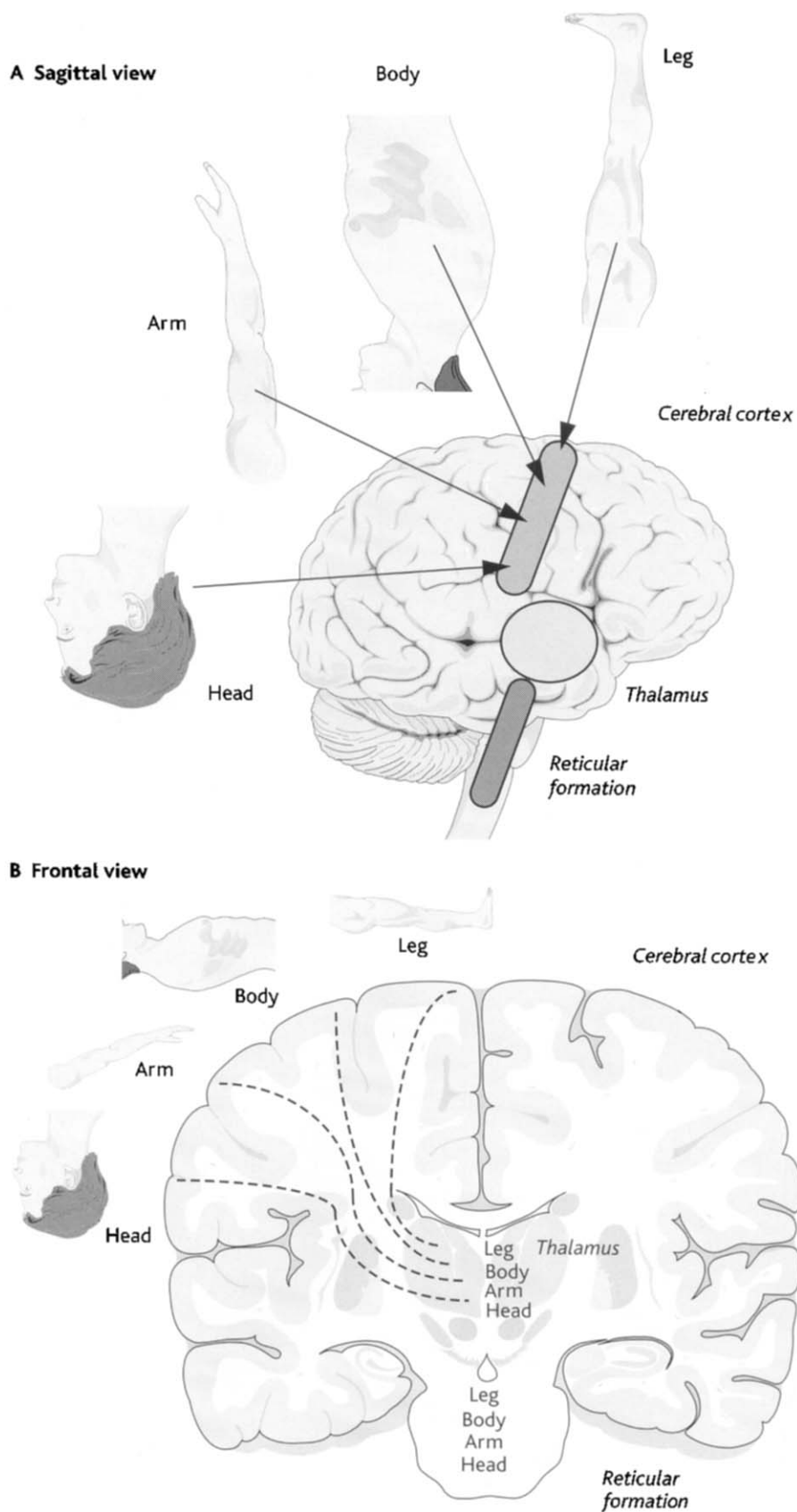


Figure 2.2 Somatotopic organization of the cerebral cortex, thalamus and reticular formation of the brain viewed sagittally (A) and frontally (B). (From Life ART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

Cutaneo-organic reflexes: Stimulating the skin at a microsystem acupoint produces internal homeostatic changes that lead to the relief of pain and the healing of the corresponding organ. This cutaneous stimulation triggers nervous system messages to the spinal cord and brain, activating bioenergetic changes, biochemical releases, and alterations of the electrical firing in neuronal reflexes.

Interactions between systems: All of the micro-acupuncture systems interact with the macro-acupuncture systems. Treatment by one system will produce changes in the body's functional patterns as diagnosed by the other systems. Treatment of the overall macrosystem affects the functioning of the microsystems and treatment of any of the microsystems affects the functioning of the macrosystem and of the other microsystems. For instance, stimulating an ear point can reduce the intensity of discomfort of a tender trigger point on an acupuncture channel, whereas an electrically reactive ear point will become less conductive if the patient begins to heal following a body acupuncture treatment.

Mu alarm points and shu transport points: The first micro-acupuncture systems originated in ancient China, but they were not consciously developed as such. The *front mu* and the *back shu* channels are 12-point diagnostic and therapeutic systems (Dale 1985). Each of the 12 acupoints on these midline meridians resonates with one of 12 principal organs, including the lung, heart, liver, spleen, stomach, intestines, bladder and kidney (Figure 2.3). The front mu points and back shu points are more or less cutaneous projections from the visceral organs that are found deep beneath the skin. These ancient systems may be seen as organ-energy correspondences, whose acupoint loci on the body surface are reiterative of the underlying anatomy. The mu and shu points for the heart are respectively on the anterior chest and on the posterior spine at the level of the actual heart, whereas the mu and shu points for the liver are respectively on the anterior body and the posterior body above the actual liver. The mu points alarm the body about internal disorders and are sensitive to pain when there is acute or chronic visceral distress. While the shu points that run along the posterior spine can also be utilized for diagnostic discoveries, these acupoints on the back are more often used for treatment of the underlying organ disorder. Stimulating the back shu points is said to convey the vital qi energy to the corresponding internal organ.

Microsystems along the body: In 1913, Kurakishi Hirata, a Japanese psychologist, postulated seven micro-acupuncture zones: the head, face, neck, abdomen, back, arms, and legs. Each of the seven zones manifested 12 horizontal sub-zones of organ-energy function: trachea-bronchi, lungs, heart, liver, gall bladder, spleen-pancreas, stomach, kidneys, large intestines, small intestines, urinary bladder and genitals. The Hirata Zones were utilized both for diagnosis and for treatment. Beginning in 1973, a Chinese researcher, Ying-Qing Zhang (1980, 1992) from Shandong University, published several books and articles proposing a theory he called ECIWO (Embryo Containing the Information of the Whole Organism). Zhang delineated micro-acupuncture systems for every long bone of the body, which he presented at the World Federation of Acupuncture Societies and Associations meeting in 1990. Zhang particularly emphasized a set of microsystem points located outside the second metacarpal bone of the hand. Like Hirata, Zhang identified 12 divisions that correspond to 12 body regions: head, neck, arm, lungs and heart, liver, stomach, intestines, kidney, upper abdomen, lower abdomen, leg and foot. Bioholographic systems arranged in a somatotopic pattern were described for all the primary bones of the body, including the head, spine, upper arm, lower arm, hand, upper leg, lower leg, and foot. Each of these skeletal regions was said to contain the 12 different body regions and their underlying internal organs.

Foot and hand reflexology: Two of the oldest microsystems are those of the foot and the hand, both known in ancient China and ancient India. In 1917, William H Fitzgerald MD, of Hartford, Connecticut, independently rediscovered the microsystem of the foot as well as the hand (Dale 1976). Fitzgerald called these systems *Zone Therapy*. The topology of Fitzgerald's microsystem points was derived from the projections of five distinct zones that extended bilaterally up the entire length of the body, each zone originating from one of the five digits of each hand and each foot. Several other Americans, including White, Bowers, Riley and Stopfel, developed this procedure as *reflexology*, by which name it is widely known today. In hand and foot reflexology, the fingers and toes correspond to the head, whereas the base of the hand and the heel of the foot represent the lower part of the body. The thumb and large toe initiate zone 1 that runs along the midline of the body, whereas the index finger and second toe represent zone 2, the middle finger

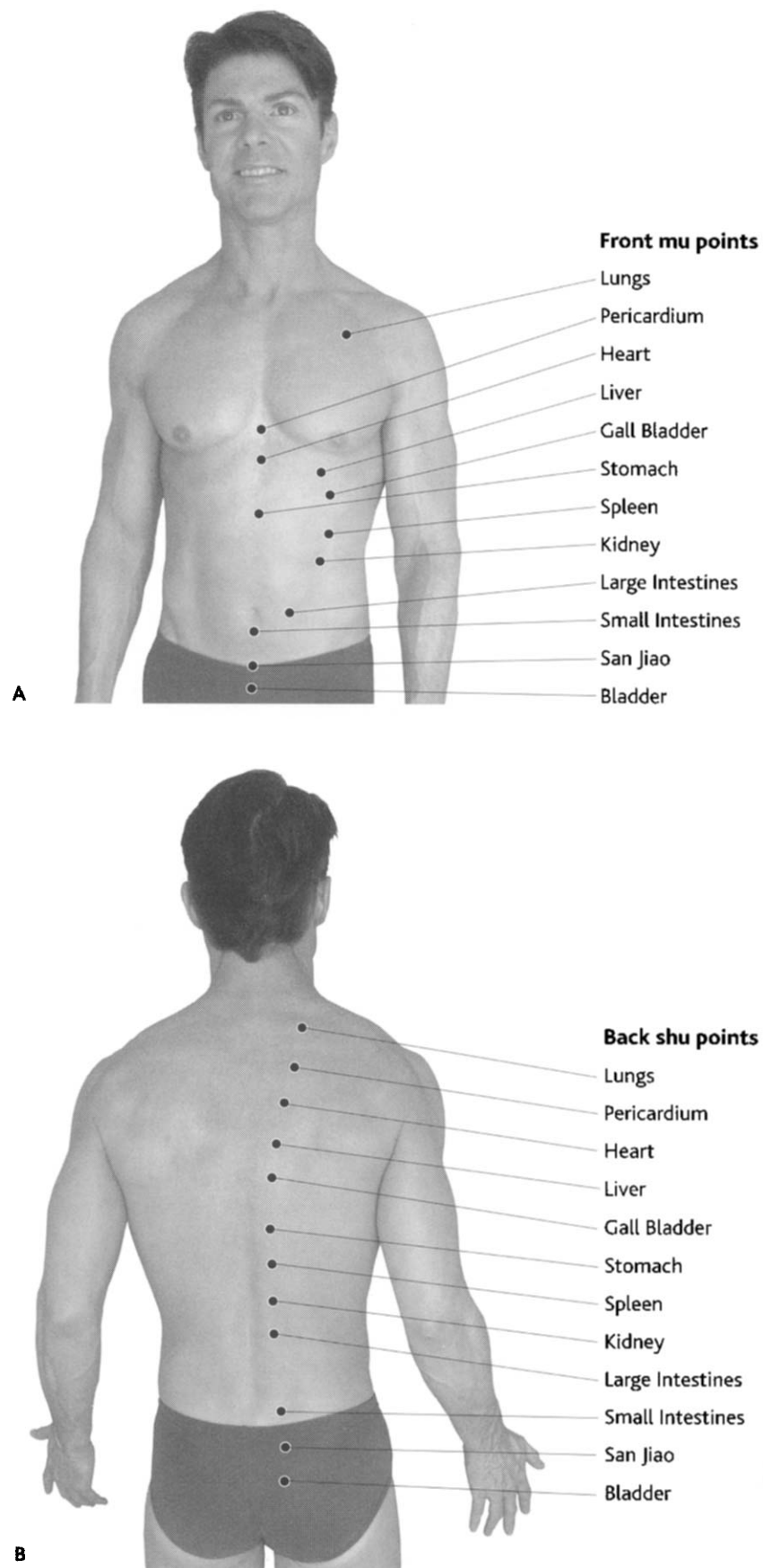


Figure 2.3 Mu points (A) found on the anterior torso that represent the internal organs beneath them and the corresponding shu points (B) found on the posterior torso of the body.

and third toe are found in zone 3, the ring finger and fourth toe are located in zone 4, and the little finger and little toe demark zone 5 (see Figure 2.1). This last zone connects all peripheral regions of the body, including the leg, arm, and ear. The midline of the back is in zone 1, whereas the hips and shoulders occur along zone 5. On the head, the nose is in zone 1, the eyes in zones 2 and 3, and the ears are in zone 5. The foot reflexology microsystem is shown in Figure 2.4, and the hand reflexology microsystem in Figure 2.5.

Koryo hand therapy: The Korean acupuncturist Tae Woo Yoo has described a different set of correspondence points for the hand (Yoo 1993) (see Figure 2.6). In this Korean microsystem, the midline of the body is represented along the middle finger and middle metacarpal, the arms are represented on the second and fourth fingers, and the legs are represented on the thumb and little finger. The posterior head, neck and back are found on the dorsum of the hand and the anterior face, throat, chest and abdomen are represented on the palmar side. Beyond correspondences to the actual body, Koryo hand therapy also presents points for stimulating each of the meridian acupuncture points that run over the actual body. The macro-acupuncture points of each channel are represented on the corresponding micro-acupuncture regions found on the hand.

Acupuncturists insert thin short needles just beneath the skin surface of these hand points, usually using a special metal device that holds the small needles. That this Korean somatotopic pattern on the hand is so different from the American hand reflexology pattern seems paradoxical, particularly since practitioners of both systems claim very high rates of clinical success. Since there are also differences in the Chinese and European locations for auricular points, a broader view is that the somatotopic pathways may have multiple microsystem representations.

Face and nose microsystems: Chinese practitioners have identified microsystems on the face and the nose that are oriented in an upright position (see Figure 2.7). The homunculus for the face system places the head and neck in the forehead, the lungs between the eyebrows, the heart between the eyeballs, the liver and spleen on the bridge of the nose, and the urogenital system in the philtrum between the lips and nose. The digestive organs are located along the medial cheeks, the upper limbs across the upper cheeks, and the lower limbs are represented on the lower jaw. In the nose system, the midline points are at approximately the same location as in the face system, the digestive system is at the wings of the nose, and the upper and lower extremities are in the crease alongside the nose.

Scalp microsystem: Scalp acupuncture was also known in ancient China and several modern systems have subsequently evolved. Scalp micro-acupuncture has been shown to be particularly effective in treating strokes and cerebrovascular conditions. While there are two scalp microsystems indicated by Dale (1976), the principal system divides the temporal section of the scalp into three parts (see Figure 2.8). A diagonal line is extended laterally from the top of the head to the area of the temples above the ear. The lowest portion of this temporal line relates to the head, the middle area relates to the body, arms, and hands, and the uppermost region represents the legs and feet. This inverted body pattern represented on the scalp activates reflexes in the ipsilateral cerebral cortex to the contralateral side of the body.

Tongue and pulse microsystems: Tongue examination and palpating the radial artery of the wrist are two ancient Chinese diagnostic systems. While not initially intended as such, the tongue and pulse can also be viewed as microsystems. For pulse diagnosis, the acupuncture practitioner places three middle fingers on the wrist of the patient. The three placements are called the cun or distal position, the guan or middle position, and the chi or proximal position. The distal position (nearest the hand) relates to the heart and lungs, the middle position relates to the digestive organs, and the proximal position (toward the elbow) relates to the kidneys (see Figure 2.9). The practitioner palpates the pulse to feel for such subtle qualities as superficial versus deep, rapid versus slow, full versus empty and strong versus weak. In the tongue microsystem, the heart is found at the very tip of the tongue, the lung in the front, the spleen at the center, and the kidney at the back of the tongue. The liver is located on the sides of the tongue. Tongue qualities include observations as to whether its coating is thick versus thin, the color of the coating is white or yellow, and whether the color of the tongue body is pale, red or purple.

Dental microsystem: A complete representation of all regions of the body on the teeth has been reported by Voll (1977), who associated specific teeth with specific organs. The teeth themselves can be identified by one of several nomenclature methods. One system involves first dividing the teeth into four equal quadrants: right upper jaw, left upper jaw, right lower jaw and left lower jaw.

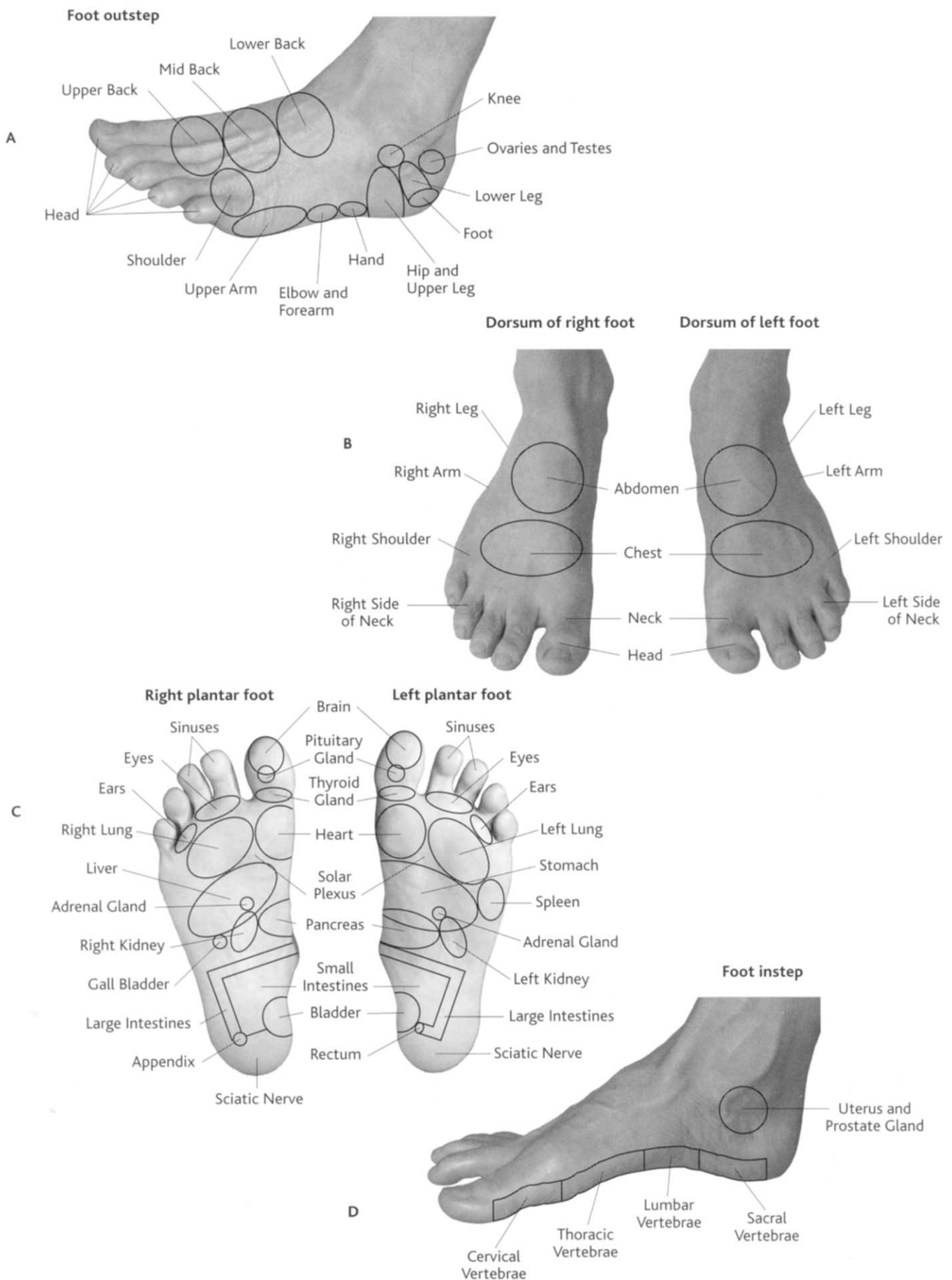


Figure 2.4 The foot reflexology system depicted on the outside (A), dorsum (B), plantar surface (C) and instep (D) of the foot.

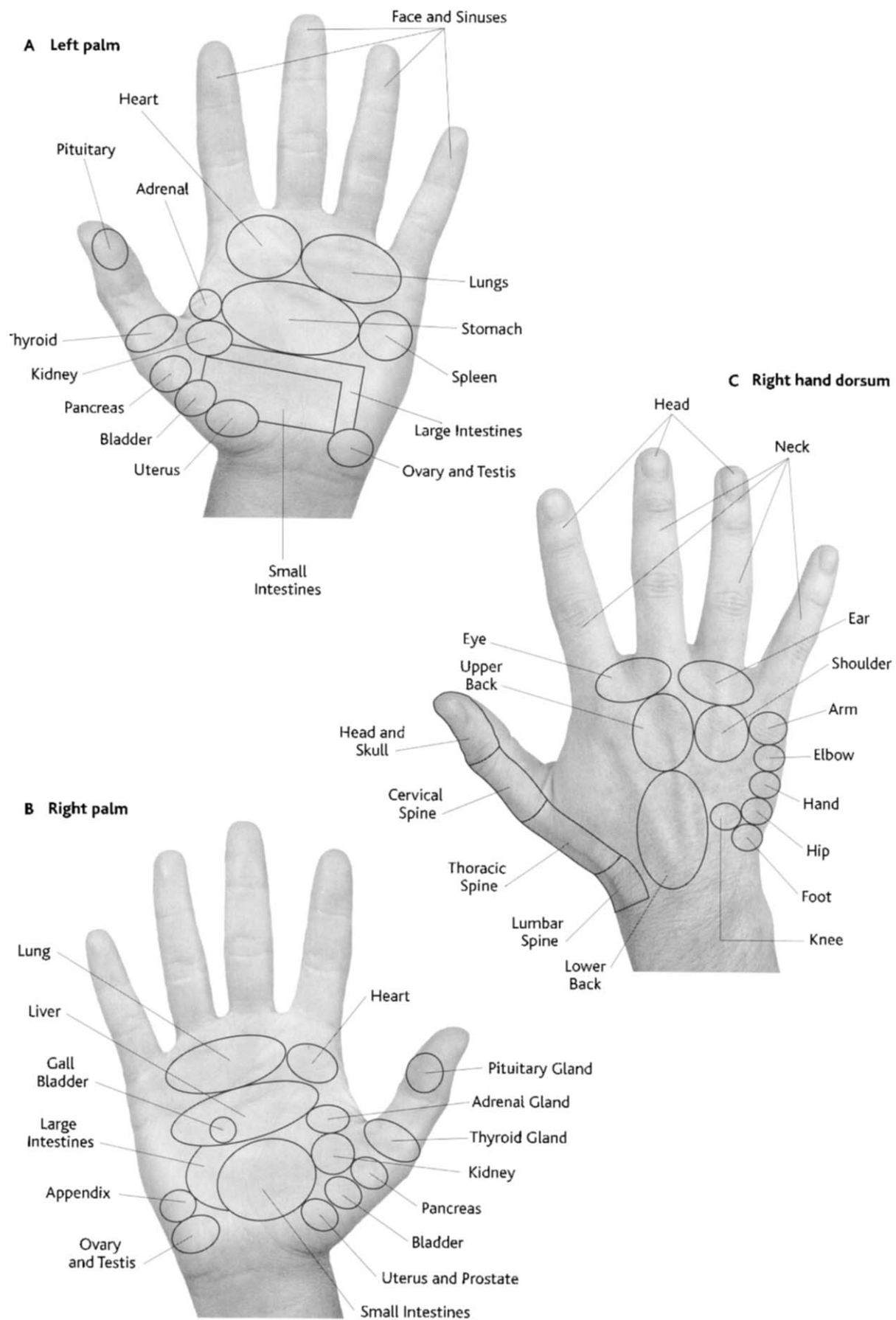


Figure 2.5 The hand reflexology system depicted on the palmar surface of the left hand (A), the right hand (B), and on the dorsal surface of the right hand (C).

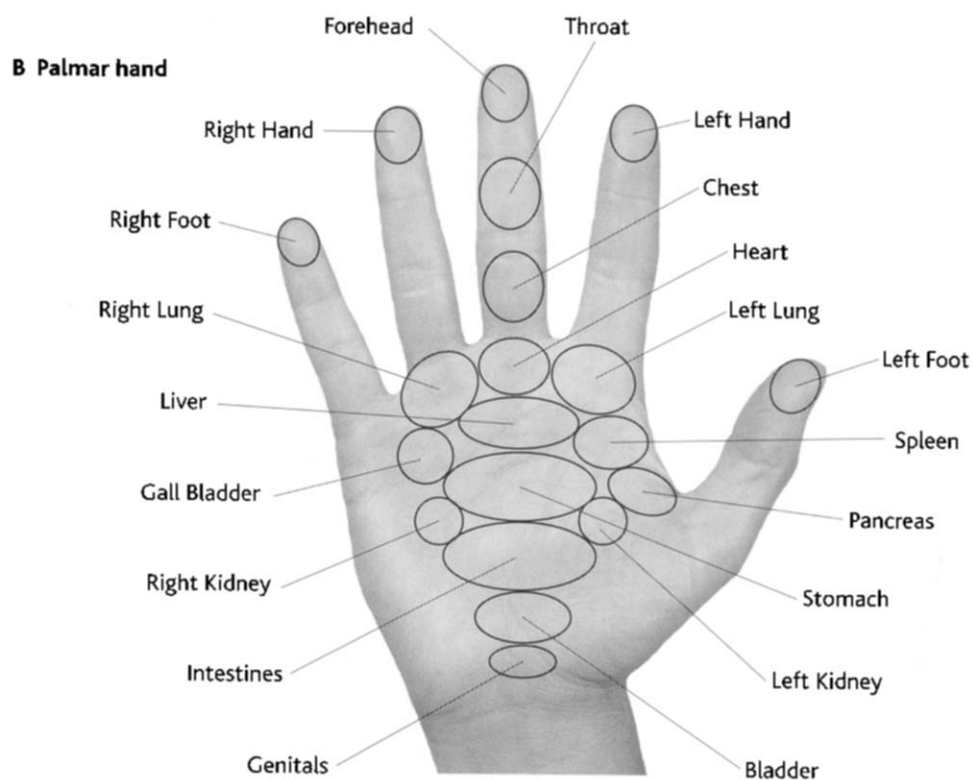
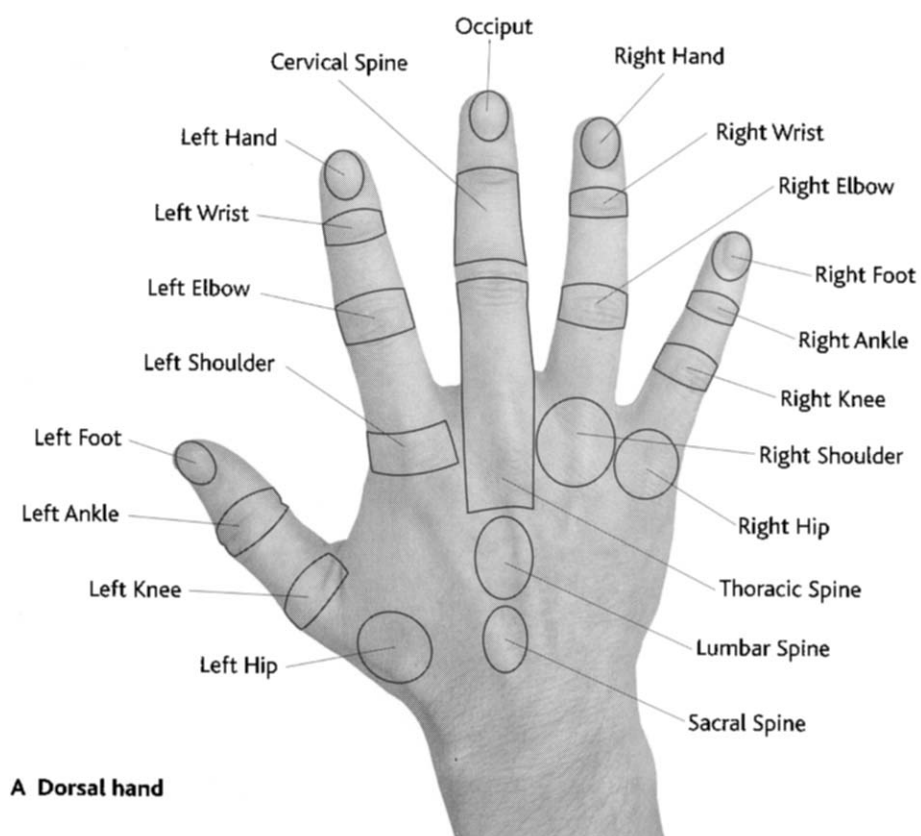
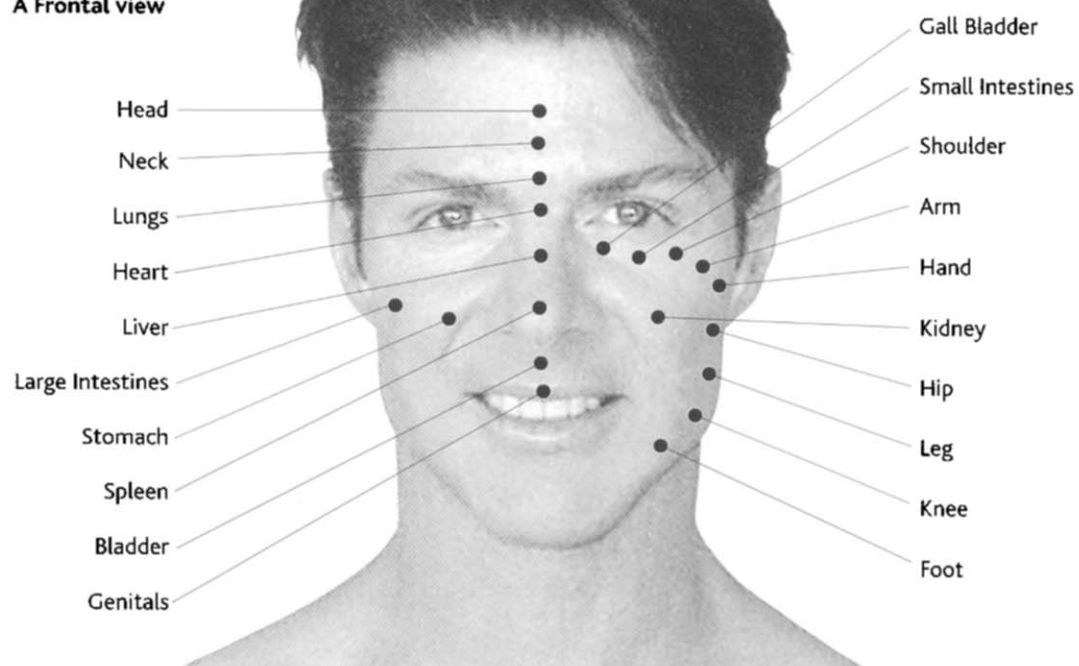


Figure 2.6 The Korean hand micro-acupuncture system depicted on the dorsal (A) and palmar (B) sides of the hand.

A Frontal view



B Side view

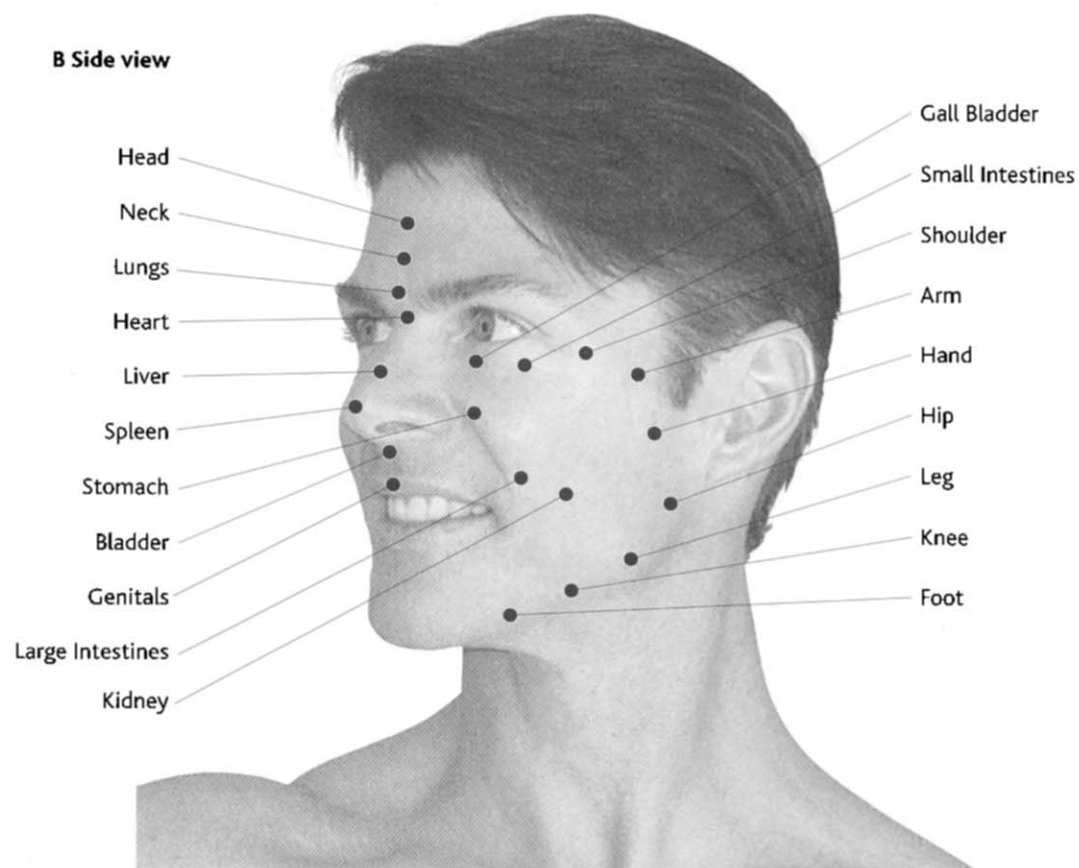
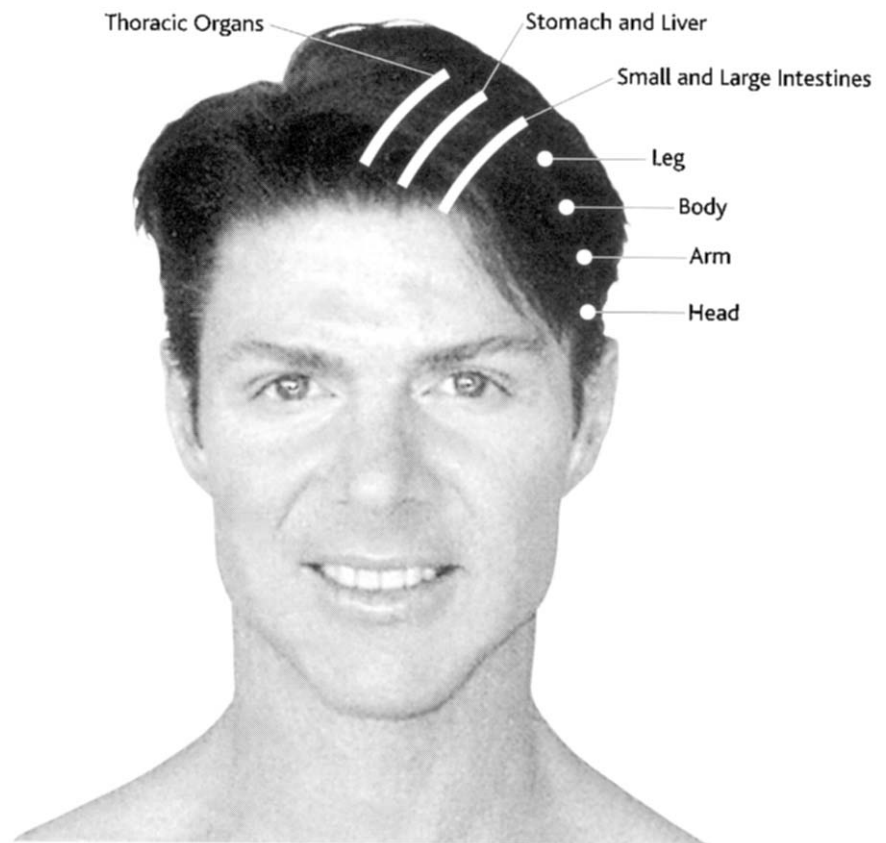


Figure 2.7 *The face microsystems viewed from the front (A) and the side (B).*

A Frontal view



B Side view

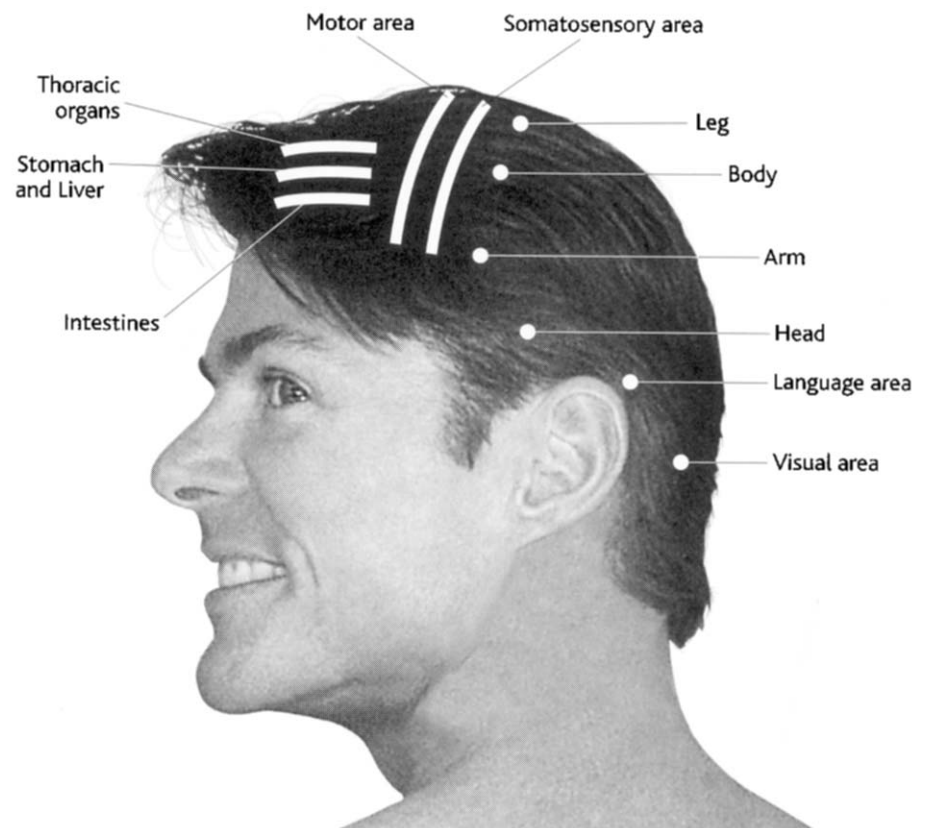


Figure 2.8 The scalp micro-acupuncture points related to the underlying cerebral cortex viewed from the front (A) and the side (B).

Upper Jiao

- Heart

San Jiao — Small Intestine

Pericardium — Heart

Spleen — Stomach

Lung — Large Intestine

Stomach — Gallbladder

Kidney Bladder

Liver Gall Bladder

Heart Small Intestines

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Table 2.1 Dental microsystem correspondences between teeth and body regions

Tooth position	Right upper and lower jaw quadrants	Left upper and lower jaw quadrants
1. Center incisor	Right kidney, bladder, genitals, lumbosacral vertebrae, right knee and ankle, sinus, ear	Left kidney, bladder, genitals, lumbosacral vertebrae, left knee and ankle, sinus, ear
2. Lateral incisor	Right kidney, bladder, genitals, lumbosacral vertebrae, right knee and ankle, sinus	Left kidney, bladder, genitals, lumbosacral vertebrae, left knee and ankle, sinus
3. Canine	Liver, gall bladder, lower thoracic vertebrae, right hip, right eye	Liver, spleen, lower thoracic vertebrae, left hip, left eye
4. First bicuspid	Right lung, large intestines, upper thoracic vertebrae, right foot	Left lung, large intestines, upper thoracic vertebrae, left foot
5. Second bicuspid	Right lung, large intestines, upper thoracic vertebrae, right foot	Left lung, large intestines, upper thoracic vertebrae, left foot
6. First molar	Pancreas, stomach, right jaw, right shoulder, right elbow, right hand	Spleen, stomach, left jaw, left shoulder, left elbow, left hand
7. Second molar	Pancreas, stomach, right jaw, right shoulder, right elbow, right hand	Spleen, stomach, left jaw, left shoulder, left elbow, left hand
8. Wisdom tooth	Heart, small intestines, inner ear, brainstem, limbic brain, cerebrum, right shoulder, elbow, hand	Heart, small intestines, inner ear, brainstem, limbic brain, cerebrum, left shoulder, elbow, hand

The individual teeth are then numbered from 1 to 8, beginning with the midline, front incisors at 1, then progressing laterally to the bicuspid, and continuing more posteriorly to the molars at 7 or 8. Individuals who have had their wisdom teeth removed on a side of their jaw will only have seven teeth in that quadrant. Urogenital organs and the lower limbs are represented on the more central teeth, whereas thoracic organs and the upper limbs are represented on the more peripheral molars (see Table 2.1).

2.2 Traditional Oriental medicine and qi energy

While the *Yellow Emperor's classic of internal medicine* (Veith 1972) and subsequent Chinese medical texts included a variety of acupuncture treatments applied to the external ear, it was not until the late 1950s that an auricular micro-acupuncture system was first described. Some traditionalists contend that ear acupuncture is not a part of classical Chinese medicine. Nonetheless, both ancient and modern acupuncture practitioners recorded the needling of ear acupoints for the relief of many health disorders. They also emphasized the importance of selecting ear points based on the fundamental principles of traditional Oriental medicine. The aspect of body acupuncture that is most relevant to the application of auriculotherapy is the use of distal acupuncture points. Needling acupoints on the feet or hands has long been used for treating conditions in distant parts of the body. There are others who seek to make auriculotherapy completely divorced from classical acupuncture, suggesting that it is an entirely independent system of trigger point reflexes. The clinical application of certain points for ear acupuncture treatments, however, does not make any sense without an understanding of Oriental medicine. The popularity of the five ear points used in the NADA treatment protocol for addictions is only comprehensible from the perspective of this ancient Asian tradition that is very different from conventional Western thinking.

Influential English language texts on traditional Chinese medicine include *The web that has no weaver* by Ted Kaptchuk (1983), *Modern techniques of acupuncture: a practical scientific guide to electro-acupuncture* by Julian Kenyon (1983), *Chinese acupuncture and moxibustion* from Foreign Languages Press (1987), *The foundations of Chinese medicine* by Giovanni Maciocia (1989), *Between heaven and earth* by Beinfeld & Korngold (1991), *Acupuncture energetics* by Joseph Helms (1995), *Basics of acupuncture* by Stux & Pomeranz (1998), and *Understanding acupuncture* by Birch & Felt (1999). All of these books describe an energetic system for healing that is rooted in a uniquely Oriental viewpoint of the human body. While all energy is conceptualized as a form of qi, there are different manifestations of this basic energy substance, including the energy of yin and

yang, an energy differentiated by five phases, and an energy distinguished by eight principles for categorizing pathological conditions. Everyday observations of nature, such as the effects of wind, fire, dampness and cold, are used as metaphors for understanding how this qi energy affects the internal conditions that lead to disease.

Qi: This basic energy refers to a vital life force, a primal power, and a subtle essence that sustains all existence. The Chinese pictograph for qi refers to the nutrient-filled steam that appears while cooking rice. Qi is the distilled essence of the finest matter. Similar images for qi include the undulating vapors that rise from boiling tea, the swirling mists of fog that crawl over lowlands, the flowing movement of a gentle stream, or billowing cloud formations appearing over a hill. These metaphorical pictures were all attempts to describe the circulation of this invisible energy. Different manifestations of the images of qi are shown in Figure 2.10. However, qi was not just

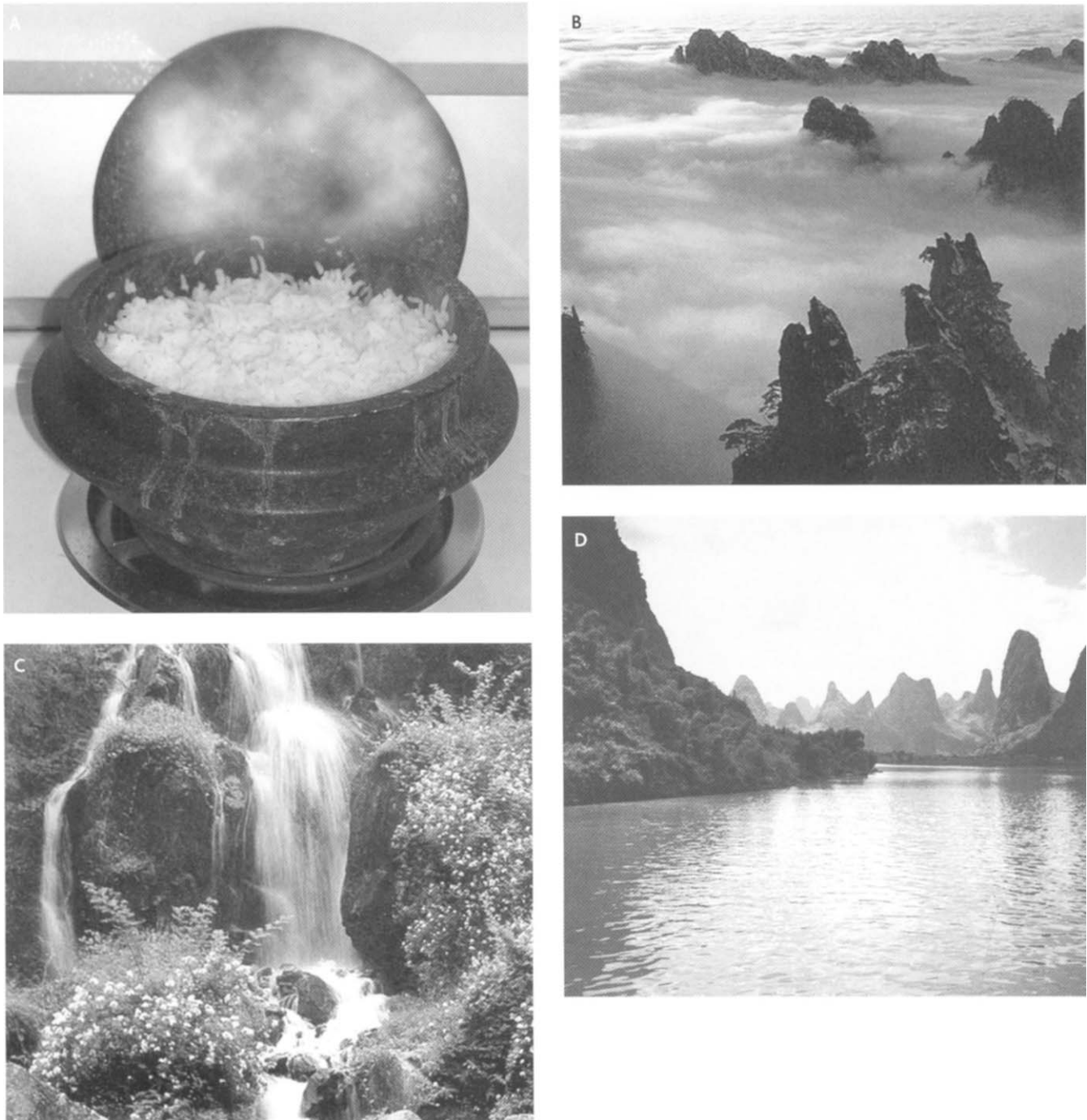


Figure 2.10 The Chinese pictograph for qi energy is related to the rising steam of cooking rice (A). Other metaphors for qi include misty clouds (B), rushing waterfalls (C) and flowing rivers (D). ((B) Jun Ma, (C), (D)© Lita Singer, with permission.)

considered a metaphor. Acupuncturists view qi as a real phenomenon, as real as other invisible forces, like gravity or magnetism. Qi is both matter and the energy forces that move matter. Comparable to Western efforts to explain light as understood in quantum physics, qi is both like a particle and like a wave. Qi permeates everything, occurs everywhere, and is the medium by which all events are linked to each other in an interweaving pattern. There is qi in the sun, in mountains, in rocks, in flowers, in trees, in swords, in bowls, in birds, in horses, and in all anatomical organs. Qi invigorates the consciousness and willpower of a human being.

As things change in the macrocosm of the heavens, the microcosm of the earth resonates with corresponding vibrations, all related to the movement and interconnectedness of qi. Certain types of qi animate living organisms, with the greatest focus placed on defensive qi and on nutritive qi. Defensive qi (wei qi), also called protective qi, is said to be the exterior defense of the human body and is activated when the skin surface and muscles are invaded by exogenous pathogens. Nutritive qi (ying qi), also called nourishing qi, has the function of nourishing the internal organs and is closely related to blood. Prenatal qi is transmitted by parents to their children at conception and affects that child's inherited constitution. Qi is obtained from the digestion of food and is extracted from the air that we breathe. Rebellious qi occurs when energy flows in the wrong direction or in conflicting, opposing patterns. In body acupuncture, health is the harmonious movement of qi throughout the body, whereas illness is due to disharmony in the flow of qi. There can be deficiency, excess, or stagnation of the flow of qi within the meridian channels or between different organs. The ear has connections to these channels, but it is not a part of any one of the classic meridians.

Meridian channels: (Jing Luo) The original English translations of the zigzag lines drawn on Chinese acupuncture charts were described as meridians, alluding to the lines of latitude which circle the earth on geographic maps. In acupuncture, meridians were thought to be invisible lines of energy which allow circulation between specific sets of acupuncture points. Later translations described these acupuncture lines as channels, analogous to the water canals that connected different cities in ancient China. As with channels of water, the flow of qi in acupuncture channels could be excessive, as when there is a flood; deficient, as when there is a drought; or stagnant, as when water becomes foul from the lack of movement. Needles inserted into specific acupuncture points were thought to reduce the flow of excessive qi, as in dams which regulate the flow of water, to increase the flow of deficient qi, as in the release of flood gates of water, or to clear areas of qi stagnation, as in removing the debris that can sometimes block water channels. Water has often been used to symbolize invisible energies, and is still thought of in the West as a convenient way to convey the properties of electricity and the flow of electrical impulses along neurons. Acupoints were thought to be holes (xue) in the lining of the body through which qi could flow, like water through a series of holes in a sprinkler system.

Tao: The philosophy of Taoism guides one of the oldest religions of China. Its basic tenet is that the whole cosmos is composed of two opposing and complementary qualities, yin and yang. The Taoist symbol shown in Figure 2.11 reveals a circle that is divided into a white teardrop and a black teardrop. A white dot within the black side represents the yang within yin, and the black dot within

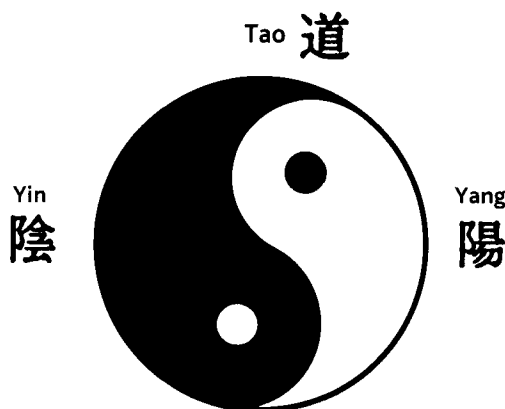


Figure 2.11 The Taoist symbol for the duality of complementary opposites has a yin dark side and a yang light side. Each half contains an element of the opposite side.



Figure 2.12 *A depiction of yang as the sunny side and yin as the shady side of a hill. (Based on photograph of mountains by Lita Singer, with permission)*

the white side reflects the yin within yang. The Chinese character for yang referred to the sunny side of a hill that is warmed by bright rays of sunlight, whereas the pictograph character for yin referred to the darker, colder, shady side of a hill. Figure 2.12 depicts such a scene. Light and dark, day and night, hot and cold, male and female, are all examples of this basic dualism of the natural world. Yin and yang are always relative rather than absolute qualities. The front of the body is said to be yin and the back of the body yang, yet the upper body is more yang compared to the lower body. The outer skin of the body and the muscles are more yang, the internal organs are more yin.

Box 2.1 Taoist qualities of yang and yin

Yang qualities	Yin qualities
----------------	---------------

Sunny side	Shady side
Day	Night
Sun	Moon
Sky	Earth
Fire	Water
Hot	Cold
Hard	Soft
Order	Chaos
Rigid	Flexible
Active	Passive
Strong	Weak
Energetic	Restful
Movement	Stillness
Aggressive	Nurturing
Rational	Intuitive
Intellect	Emotions
Head	Heart
Masculine	Feminine
Father	Mother

Disorders related to overactivity are more yang, diseases of weakness are more yin. (The dualistic aspects of yin and yang are summarized in Box 2.1.)

The psychologist Carl Jung (1964) and the historian Joseph Campbell (1988) have noted common archetypal images in the ancient cultures of China, India, Egypt, Persia, Europe and amongst Native Americans. In all these societies, the sky, the sun, and fire are referred to as 'masculine' qualities, whereas the earth, the moon, and water are associated with 'feminine' qualities. Taoist philosophers described this opposition of dualities in every aspect of nature. There is a tendency in Western culture to place greater value on the 'masculine' qualities of being strong, active, rational, and orderly, and to devalue the 'feminine' qualities of being passive, weak, or emotional. It is understandable that most people tend to prefer being strong, but it is still important for them to acknowledge times when they feel weak. Taoism recognized the importance of balance and emphasized the value of 'feminine' qualities of nurturance and intuition as well as the 'masculine' traits of strength and intelligence.

Yang qi: This energy is like the warm, bright light of the sun. It is said to be strong, forceful, vigorous, exciting, controls active movement, and is associated with aggressive 'masculine' qualities. Yang meridian channels are thought to have direct connections to ear acupuncture points. Yang qi flows down the meridians on the back side of the body, pervading skin and muscles and affecting defensive qi. Pathological conditions in the body can be caused by the excess or stagnation of yang qi, producing symptoms of restlessness, hyperactivity, tremors, stress, anxiety and insomnia. To overwork is to overindulge in yang qi, which usually leads to burnout of yin qi. In addition to the application of acupuncture needles, moxibustion and herbal remedies, yang qi can be activated by vigorous physical exercise, athletic sports and the practice of martial arts such as kung fu or karate.

Yin qi: This energy is like the soft, gentle light of the moon that comes out during the darkness of night. It is said to be serene, quiet, restful, nurturing, and is associated with passive, feminine qualities. Yin is needed to balance yang. The yin meridians indirectly connect to the auricle through their corresponding yang meridian. Yin qi flows up acupuncture meridians on the front side of body and affects internal organs and nutritive qi. Symptoms of sleepiness, lethargy,

depression and a desire to be immobile may be due to an excessive focus on craving yin qi. Insufficient yin qi is thought to be at the root of most illness, thus acupuncture and herbs are used to restore this energy. The flow of yin qi can be enhanced by meditation, by repeating the soothing sound of a mantra, by visualization of a harmonious symbol, or by the practice of such physical exercises as qi gong, tai chi or yoga. The Chinese goddess Kuan Yin is the manifestation of the Buddha in female form, usually portrayed as a caring, nurturing, ageless woman who is dressed in long flowing robes.

Yang alarm reactions: A reactive ear reflex point is said to show a yang reaction on the ear to signal a stress reaction in the corresponding area of the body. In modern times, an appropriate analogy would be a fire alarm signal in a building, indicating the specific hallway where a fire is burning. An alarm in a car can indicate when a door is ajar. Such alarms alert one to the specific location of a problem. Elevation of yang energy manifests in the external ear as a small area where there is localized activation of the sympathetic nervous system. Such sympathetic arousal leads to a localized increase in electrodermal skin conductance that is detectable by an electrical point finder. Sympathetic activation also induces localized regions of vasoconstriction in the skin of the auricle. The restricted blood supply causes an accumulation of subdermal, toxic biochemicals, thus accounting for the perception of tenderness and the surface skin reactions often seen at ear reflex points.

Ashi points: In addition to the 12 primary meridian channels that run along the length of the body, the Chinese also described extra-meridian acupoints located outside these channels. One category of such acupoints was the ashi points. Ashi means 'Ouch!' or 'There it is!', and there is a strong reflex reaction when a tender region of the skin is palpated and a patient says 'Ouch, that hurts!'. The exclamation point highlights the great emotional excitement vocalized at the time an ashi point is touched. Sometimes needling of a very tender acupoint within one of the classic meridian channels produces this same verbal outburst. While the natural inclination is to avoid touching areas of the body that hurt, ancient acupuncturists and modern massage therapists have observed that there is healing value in actually putting increased pressure on these sensitive regions. The ashi points have been suggested as the origin of the trigger points which have been described by Janet Travell in her work on myofascial pain (Travell & Simons 1983). In auricular acupuncture, a tender spot on the external ear is one of the definitive characteristics that indicate such a point should be stimulated, not avoided.

Five Oriental elements: Also referred to as the five phases, this Chinese energetic system organizes the universe into five categories: wood, fire, earth, metal and water. The word 'element' is similar to the four elements of nature described in medieval European texts, the elements of fire, earth, air, and water. The word 'phase' is comparable to the phases of the moon, observed as sequential shifts in the pattern of sunlight that is reflected from the moon. It is also related to the phases of the sun as it rises at dawn, crosses overhead from morning to afternoon, sets at dusk, and then hides during the darkness of night. The phases of the seasons in Chinese writings were said to rotate from spring to summer to late summer to fall to winter. These long-ago physicians found observations of natural elements, such as the heat from fire or the dampness of water, were useful analogies as they attempted to describe the mysterious invisible forces which affect health and disease. Many complex metabolic actions in the human body are still not understood by modern Western medicine, even with the latest advances in blood chemical assays and magnetic resonance imaging equipment.

The metaphorical descriptions of five element theory reflects the poetry and rhythm of the Chinese language in their attempts to understand each individual who is seeking relief from some ailment. At the same time, there are certain aspects of the five phases that seem like an arbitrary attempt to assign all things to groups of five. The Western approach of dividing the four seasons as the spring equinox, summer solstice, fall equinox, and winter solstice seem more aligned with nature than the Chinese notion of adding a fifth season labeled late summer. Moreover, the application of five element theory to the energetic aspects of anatomical organs often contradicts modern understanding of the biological function of those organs. It is difficult for Western minds to accept how the element metal logically relates to the lung organ and the feelings of sadness, whereas the element wood is said to be associated with the liver organ and the emotion of anger. At some point, one must accept that these five phases are simply organizing principles to facilitate clinical intuition in the understanding of complex diseases. In some respects, it might have been better to have left the names of the meridian channels as Chinese words rather than to translate them into the European

names of anatomical organs whose physiological functions were already known. The conflicts between the Oriental energetic associations of an organ and the known physiological effects of that organ can lead to confusion rather than comprehension. If one thinks of these zang-fu organs as force fields rather than organic structures, their associated function may become more understandable.

Zang-fu organs: Each of the five elements is related to two types of internal organs: the zang organs are more yin, the fu organs are more yang. The acupuncture channels are the passages by which the zang-fu organs connect with each other. The zang meridians tend to run along the inner side of the arms and legs and up the front of the body. The fu meridians run along the outer side of the limbs and down the back of the body. The zang organs store vital substances, such as qi, blood, essence, and body fluids, whereas the fu organs are constantly filled and then emptied. The Chinese character for zang alluded to a depot storage facility, whereas the pictograph for fu depicted ancient Chinese grain collection centers that were called palaces. Although Confucian principles forbade official dissections of the human body, anatomical investigations probably still occurred in ancient China, as did examination of animals. Physical observations of gross internal anatomy reveal that the fu organs were hollow tube-like structures that either carried food (stomach, small and large intestines) or carried fluid (urinary bladder and gall bladder). In contrast, the zang organs seemed essentially solid structures, particularly the liver, spleen and kidneys. While the heart and lungs have respective passages for blood and air, one would not describe these two organs as hollow, but as having interconnecting chambers.

The specific characteristics of each zang-fu channel are presented in Table 2.2, which indicates the internal organ for which each channel is named, the international abbreviation for that channel

Table 2.2 Differentiation of zang-fu meridian channels

Organ channels	WHO code	Other codes	Channel location	Element	Zang fu	Primary acupoints
Lung	LU		Hand tai yin	Metal	Zang	LU 1, LU 7, LU 9
Large Intestines	LI		Hand yang ming	Metal	Fu	LI 4, LI 11
Stomach	ST		Foot yang ming	Earth	Fu	ST 36, ST 44
Spleen	SP		Foot tai yin	Earth	Zang	SP 6, SP 9
Heart	HT	H, HE	Hand shao yin	Fire	Zang	HT 7
Small Intestines	SI		Hand tai yang	Fire	Fu	SI 3, SI 18
Urinary Bladder	BL	B, UB	Foot tai yang	Water	Fu	BL 23, BL 40, BL 60
Kidney	KI	K, Kid	Foot shao yin	Water	Zang	KI 3, KI 7
Pericardium	PC	P	Hand jue yin	Fire	Zang	PC 6
San Jiao (Triple Warmer)	SJ	TH, TE, TW	Hand shao yang	Fire	Fu	SJ 5
Gall Bladder	GB		Foot shao yang	Wood	Fu	GB 20, GB 34, GB 40
Liver	LR	Liv	Foot jue yin	Wood	Zang	LR 3, LR 14
Conception Vessel	CV	Ren mai	Front-Mu yin			CV 6, CV 17
Governing Vessel	GV	Du mai	Back-Shu yang			GV 4, GV 14, GV 20

Energy is said to circulate through these zang-fu channels in the order presented, from Lung to Large Intestines to Stomach to Spleen to Heart to Small Intestines to Bladder to Kidney to Pericardium to San Jiao to Gall Bladder to Liver and back to Lung. Tai refers to greater yin or yang, shao refers to lesser yin or yang, ming describes brightness, and jue yin indicates absolute manifestation of yin.

according to the World Health Organization, alternative abbreviations which have been used in various clinical texts, the location of each channel, and designation of the primary element associated with that channel. The acupoints which are most frequently used in acupuncture treatments are also presented. The sequential order of the channels presented in Table 2.2 indicates the circulation pattern in which energy is said to flow. The channels are differentiated into three yin meridians and three yang meridians on the hand and three yin meridians and three yang meridians on the foot. In Table 2.3, the zang-fu channels are regrouped according to those meridians which are more yang and the corresponding channels which are more yin. This table also describes the relationship of the anatomical location of each meridian that is shown on acupuncture charts as compared to the zone regions of the body that are used in foot and hand reflexology. The zang channels tend to run along the inside of the arms or legs, whereas the corresponding fu channel typically runs along the external side of the arms or legs.

As seen in Figures 2.13 and 2.14, when the arms are raised upwards toward the sun, yang energy descends down the posterior side of the body along fu channels, whereas yin energy ascends the anterior side of the body along zang channels. Only the fu Stomach channel descends along the anterior side of the body. Since the fu channels have acupuncture points located on the surface of the head, these yang meridians are said to be more directly connected to the ear. The Large Intestines channel crosses from the neck to the contralateral face, the Stomach channel branches across the medial cheeks and in front of the ear, the Small Intestines channel projects across the lateral cheek, the Bladder meridian goes over the midline of the head, and both the San Jiao and the Gall Bladder channels circle around the ear at the side of the head. Acupuncture points on the zang channels only reach as high as the chest, so they have no physical means to connect to the ear. Another set of acupuncture channels, the frontal Conception Vessel meridian (Ren mai) and the dorsal Governing Vessel meridian (Du mai) both ascend the midline of the body to reach the head, as shown in Figure 2.15. Representation of the Conception Vessel and Governing Vessel channels upon the tragus region of the external ear is shown in Figure 6.8 of Chapter 6.

The Chinese charts do not show how the external ear connects to the six zang channels. Dale (1999) has hypothesized that all micro-acupuncture systems function through micro-meridians, just as the macro-energetic system functions through macro-acupuncture meridians. It is further postulated that the entire macro-micro channel complex forms an extensive energetic network,

Table 2.3 Anatomical location of yang and yin meridian channels

Yang channels	Location	Reflex zones	Corresponding yin channels	Direction of energy flow	Reflex zones
Large Intestines	External hand to arm to shoulder and face	1–2	Lung	Inner chest to inner arm and hand	1
San Jiao	External hand to external arm and head	3–4	Pericardium	Inner chest to inner arm and hand	3
Small Intestines	External hand to arm to shoulder and face	5	Heart	Inner chest to inner arm and hand	5
Stomach	Face to anterior body to anterior leg	2–3	Spleen	Foot to inner leg to anterior body	1–2
Gall Bladder	External head to external body and leg	5	Liver	Foot to inner leg to anterior body	1–2
Bladder	Posterior head to back to posterior leg	1–2	Kidney	Foot to inner leg to anterior body	1–2
Governing Vessel (Du mai)	Midline of buttocks to midline back to midline head	1	Conception Vessel (Ren mai)	Midline abdomen to midline chest to midline face	1

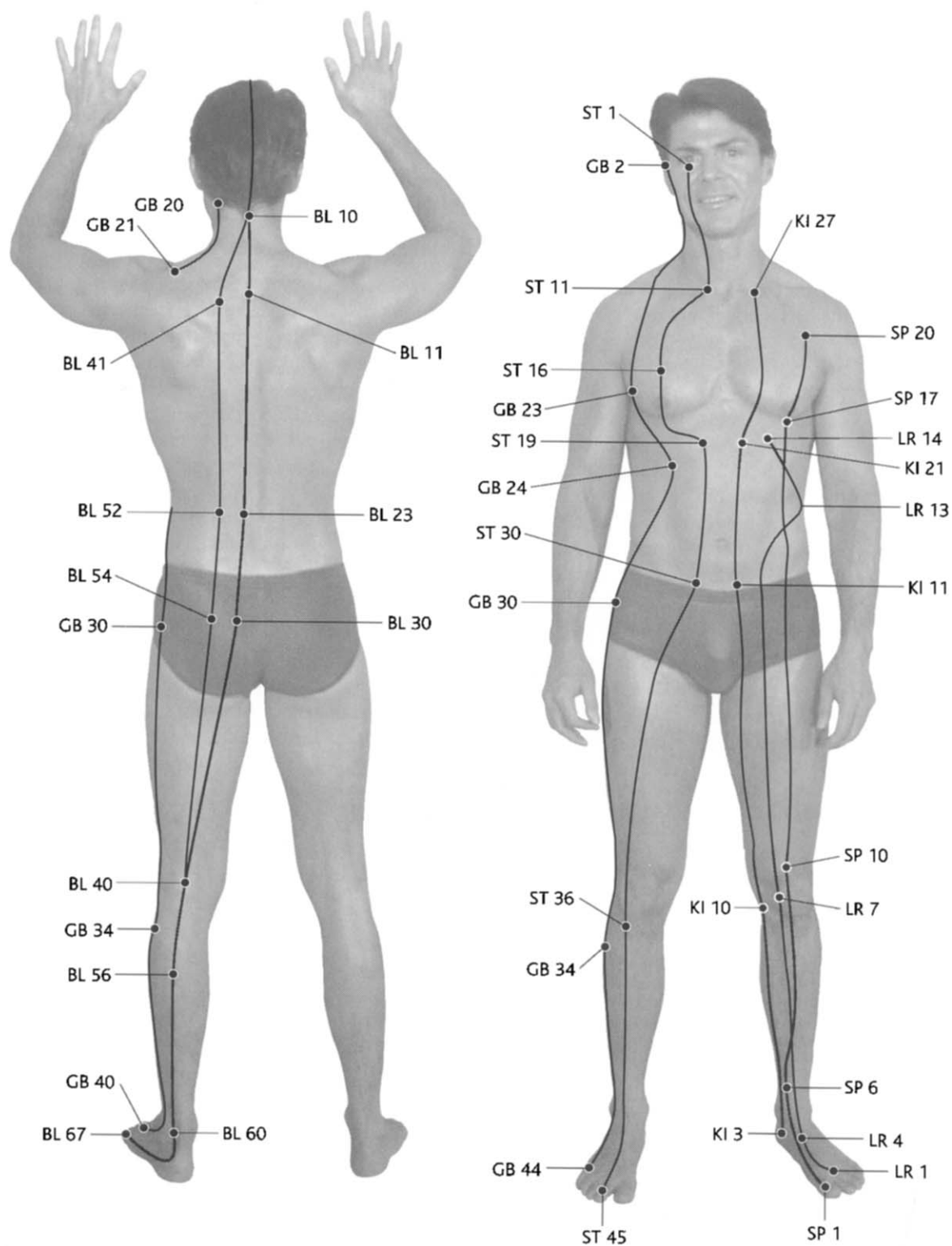


Figure 2.13 The descent of yang qi from the head to the feet viewed on the posterior (A) and anterior (B) side of the body. The ascent of yin qi from the feet to the chest only occurs on the anterior side. Yang acupuncture channels along the body include meridian acupoints for the Bladder (BL), Gall Bladder (GB) and Stomach (ST). Yin acupuncture channels include meridian acupoints for the Kidney (KI), Spleen (SP) and Liver (LR).

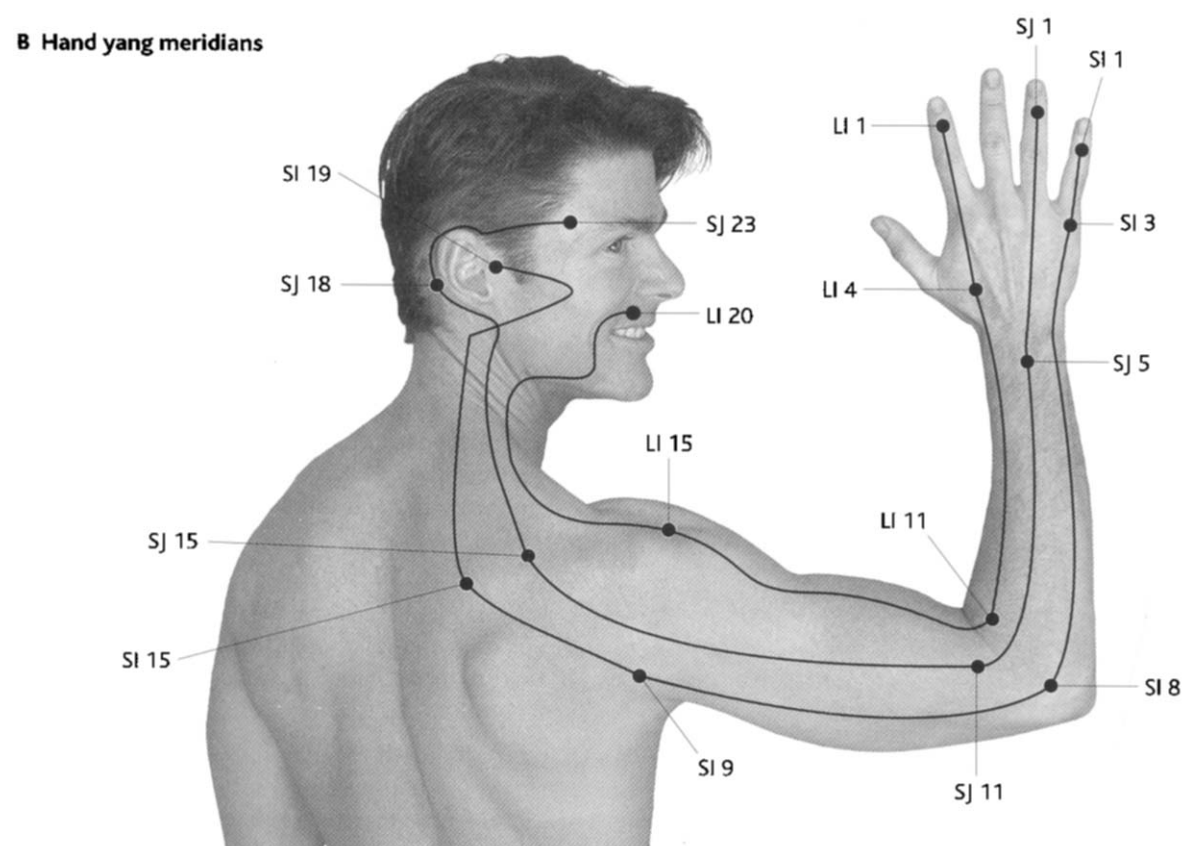
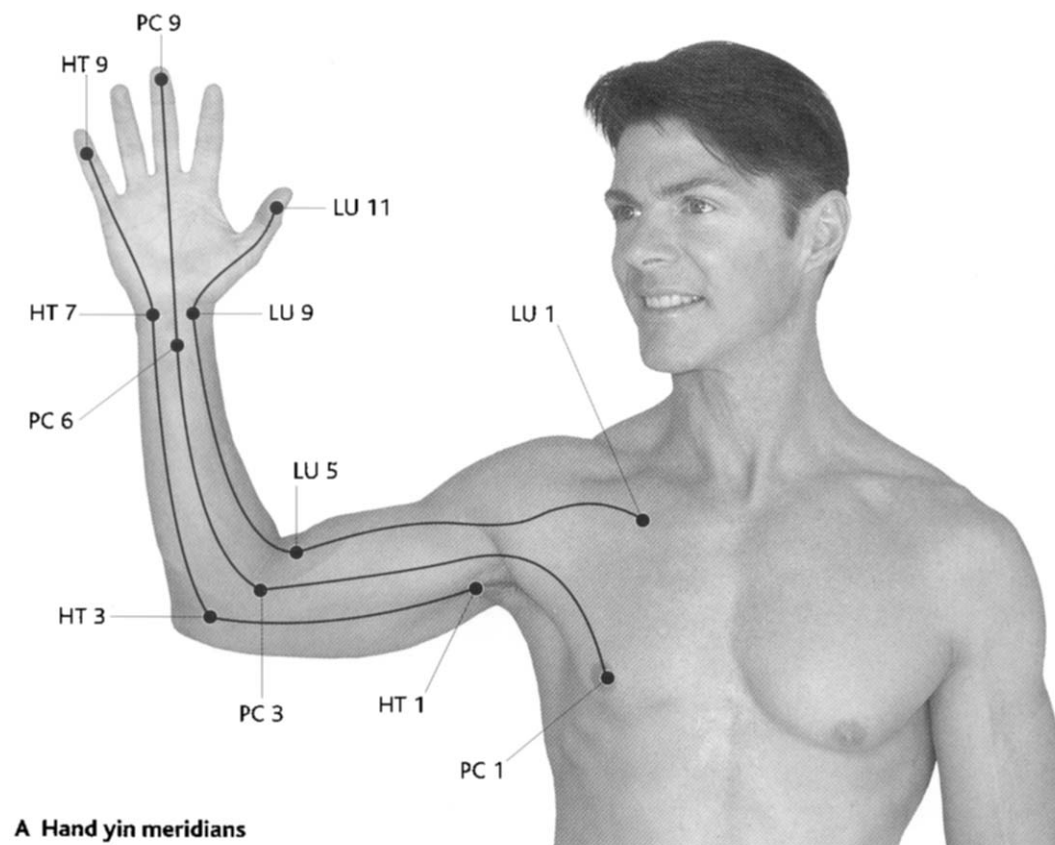


Figure 2.14 Yin qi flows from the chest distally toward the hand yin meridians (A), while yang qi flows from the hand yang meridians medially toward the head (B). The yin channels of the inner arm include the Heart (HT), Pericardium (PC) and Lung (LU) meridians, whereas the yang channels of the exterior arm include the Large Intestines (LI), San Jiao (SJ) and Small Intestines (SI) meridians.

A Conception Vessel channel

B Governing Vessel channel

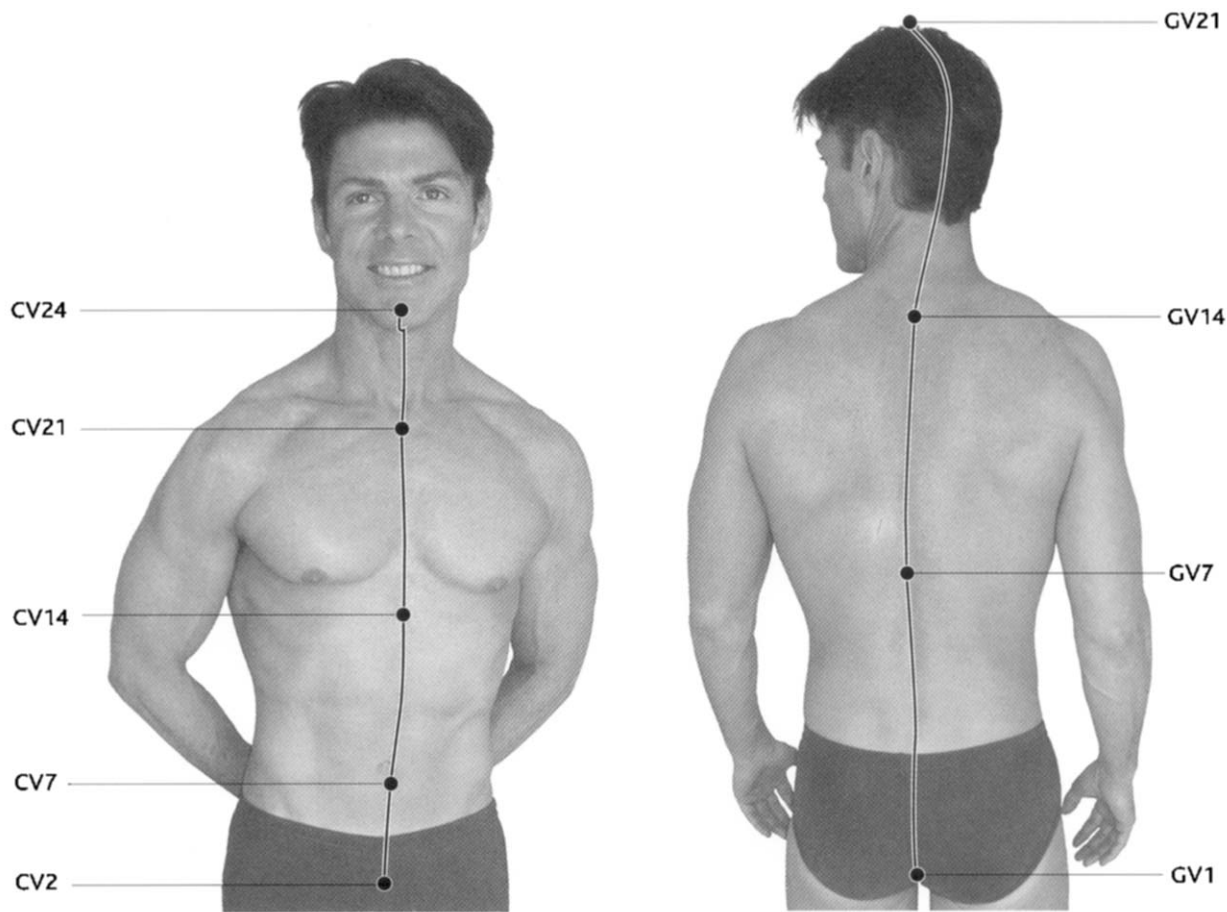


Figure 2.15 The Conception Vessel meridian (Ren channel) is found on the midline of the anterior torso (A), whereas the Governing Vessel meridian (Du channel) is found along the midline of the posterior spine of the body (B).

perhaps similar to the way veins, arteries and capillaries characterize the vascular network. Since both macro-acupuncture channels and micro-acupuncture meridians carry invisible forces of energy, the exact mechanisms remain mysterious.

Metal: The metaphor of metal is related to the Bronze Age technique of heating the minerals of the earth to a *white* hot intensity with fire, then cooling the object with water and shaping it with wood. While metal is malleable when it is warm, it becomes hard and rigid when it cools and contracts into a fixed shape. The yin nourishing aspects of metal are represented by the ability to cook rice in a metal pot, whereas the yang aggressive aspects of metal are demonstrated by the creation of the sword and protective suits of armor. The acupuncture meridians related to metal are the *Lung channel* that descends from the chest distally down the inner arm and ends on the palm side of the thumb, whereas the *Large Intestines channel* is found on the opposing side of the hand, beginning at the external, dorsum side of the second finger and traveling up the external side of the arm toward the body.

Earth: The *yellow* earth is the stable foundation upon which crops are grown and cities are created. The *late summer* qualities of earth allow one to be solid and grounded. The acupuncture meridians related to earth are the *Spleen channel* that begins on the large toe and travels up the inner leg and the *Stomach channel* that travels down the external body and external leg to end on the second toe.

Fire: The *red* flames of a fire bring warmth and comfort to a cold day, allowing one to move about and function with greater ease and speed. The *summer* qualities of fire accompany a time when there is great activity and a gathering of crops. The acupuncture meridians related to fire include the *Heart channel* that descends from the chest distally down the inner arm and ends on the little finger, whereas the *Small Intestines channel* begins on the little finger and travels up the external arm toward the body. Two other channels also related to fire are the *Pericardium channel* that travels distally down the inner arm and the *San Jiao channel* that travels up the outer arm from the hand.

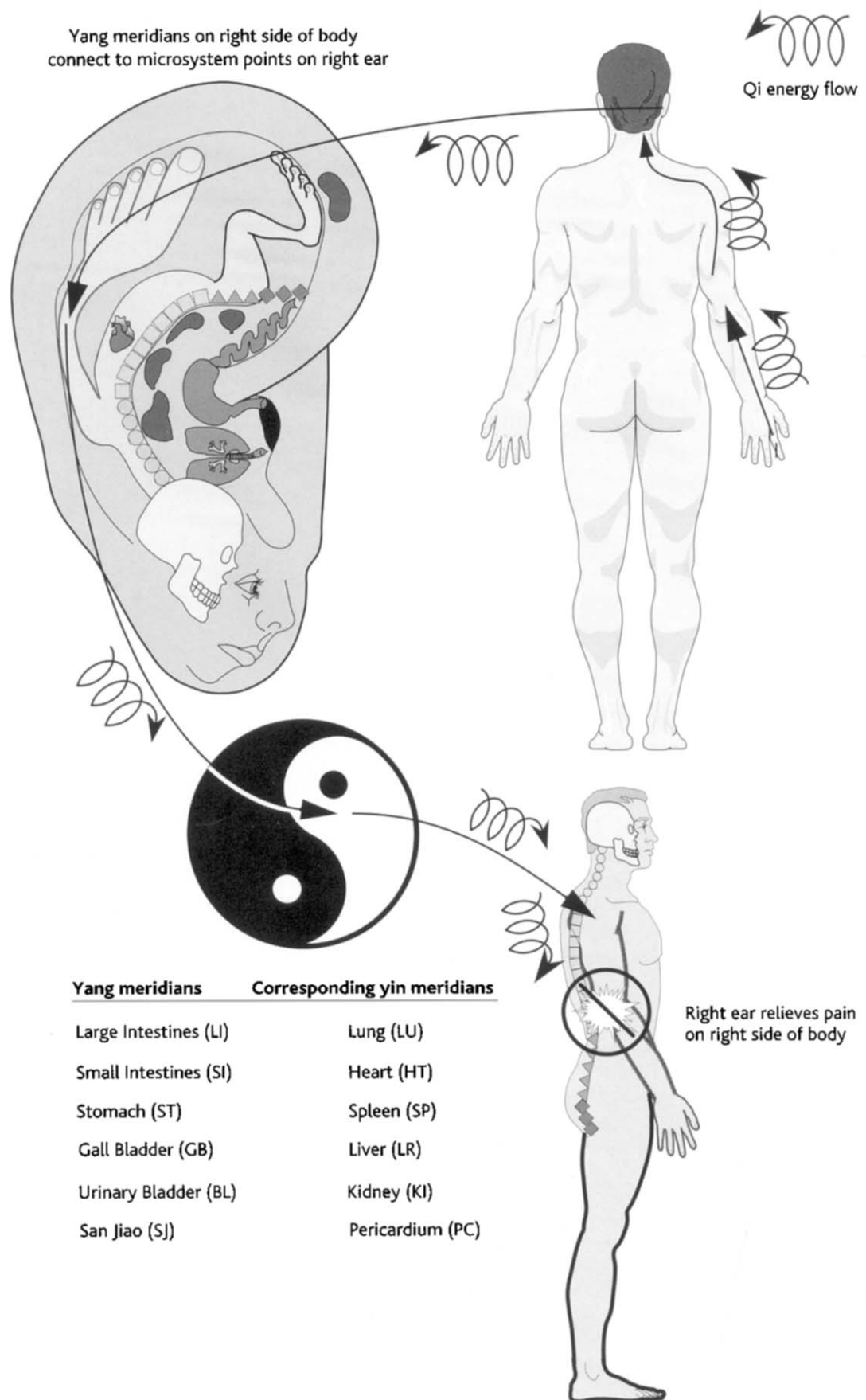


Figure 2.16 The flow of qi along a yang acupuncture channel up the arm toward ear reflex points on the head has the ability to unblock the flow of energy along the ipsilateral side of body. (From Life ART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

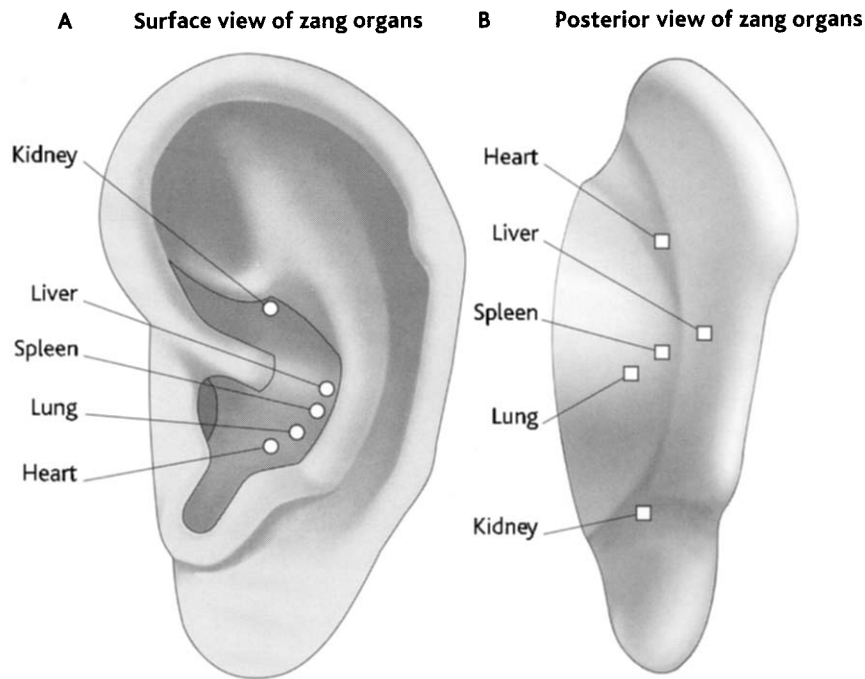


Figure 2.17 Localization of the five zang organs represented on the anterior (A) and posterior (B) auricle.

Water: The refreshing coolness of *blue* waters quenches one's thirst and provides the body with one of its most necessary elements. Associated with *winter*, the qualities of water are stillness, quietness, and a time for reflective meditation. The acupuncture meridians related to water are the *Kidney channel* that begins on the little toe and travels up the inner leg to the abdomen, whereas the *Bladder channel* begins on the forehead, crosses over the top of the head to the back of the head, runs down the back of the neck, down the spine, and down the back of the leg to the foot.

Wood: The image of wood is best thought of as the initial *spring* growth of new branches on a tree, each limb sprouting bright *green* leaves. Wood is associated with new beginnings, new growth, and changing temperaments. The acupuncture meridians related to wood include the *Liver channel* that begins on the large toe and travels up the inside of the leg to the chest, whereas the *Gall Bladder channel* descends along the external side of the head and body and down the external leg to the little toe.

Five zang organs: While all the internal organs are more yin than yang, a predominant focus in Chinese medicine is given to the importance of the zang organs, which are even more yin than the fu internal organs. The five principal zang organs are the lung, heart, liver, spleen and kidney. The energetic functions of zang organs are utilized in classical acupuncture more often than the physiological functions of that organ. As previously noted, Western language translations of the acupuncture meridians might have been better left as Chinese pinyin terms. The discrepancies between the anatomical function of these organs and their clinical use in Oriental medicine has often lead to skepticism rather than understanding by Western doctors. The zang organs represented on the external ear are shown in Figure 2.17.

Lung (fei): The thoracic organ of the lung, in the upper jiao, dominates the qi of respiration, inhaling pure qi and exhaling toxic qi. If lung qi is weak, defensive qi will not reach the skin, thus the body will be more easily invaded by pathogenic factors, particularly cold. Besides its inclusion in the treatment of respiratory disorders, the Lung point on the auricle is one of the most frequently used ear points for the detoxification from addictive substances, such as opium, cocaine and alcohol. Because the skin also connects to respiration and to the release of toxic substances through sweating, the auricular Lung point is also used for the treatment of skin disorders.

Heart (xin): This thoracic organ promotes blood circulation and supports vigorous heart qi. Heart qi is said to be essential for forming blood and also houses the mind, emotions and the spirit.

In addition to its application for coronary dysfunctions, the auricular Heart point is stimulated to relieve nervous disorders, memory problems, sleep impairment and disturbing dreams.

Liver (gan): In Chinese thought, the liver is said to store blood and to increase blood circulation for vigorous movements by nourishing the sinews, ligaments and tendons that attach muscles to bones. The liver is responsible for unrestrained harmonious activity of all organs and maintains the free flow of qi. Stagnation of liver qi is associated with resentment, bitterness, irritability, repressed anger, and mental depression, while excessive liver qi may cause headaches and insomnia. The auricular Liver point is used for myofascial pain and muscle tension due to repressed rage.

Spleen (pi): Of all the zang organs, the Chinese conceptualization of the spleen is probably most different from Western understanding of this organ. This abdominal organ reportedly governs the transportation of blood and nourishes the muscles and the four limbs. If spleen qi is weak, the muscles will be weak. Excessive mental work or worried thinking is said to weaken spleen qi. In Western anatomical texts, the spleen is considered a part of the lymphatic drainage system and has little effect on muscles or on mental worry. Some of the digestive functions that the Chinese assigned to the spleen seem more appropriately delegated to the nearby abdominal organs of the stomach and the pancreas. Nonetheless, the Chinese Spleen point on the ear is often used very effectively for the treatment of muscle tension and general nourishment.

Kidney (shen): Lower in the abdomen, the kidneys are said to store the congenital essence of the physical body that people inherit from their parents. The kidney also affects growth, development, and reproduction. The kidneys dominate water metabolism and regulate the distribution of body fluid. The kidney is also said to nourish the spinal cord and the brain, and to be the residence of willpower and vitality. Finally, the kidneys nourish hearing functions of the ear.

Pericardium (xin bao): A sixth zang organ is the pericardium, which refers to the protective membranes that surround the heart. This acupuncture channel has also been labeled the Master of the Heart or as the circulation–sex channel. The Pericardium meridian functions very similar to the Heart channel and runs along an adjacent region of the inside of the arm as it travels distally toward the hand. This zang organ is not often utilized in auriculotherapy.

Six fu organs: The fu organs are not as prominently discussed in Oriental medicine as the zang organs, but the acupuncture channels associated with each fu organ are very important in acupuncture treatment plans. Two of the most commonly used acupoints in all of Oriental medicine are LI 4 (hegu or hoku) on the Large Intestines meridian and ST 36 (zusanli) on the Stomach meridian. Stimulation of the Large Intestines channel can relieve pains in the index finger, wrist, elbow, shoulder, neck or jaw that occur along the Large Intestines channel. Needling the Stomach channel can alleviate conditions in the face, neck, chest, abdomen, leg, knee or foot that are all skeletal structures found along the Stomach meridian.

San Jiao: This term has been translated as Triple Warmer, Triple Heater, Triple Burner and Triple Energizer. Members of an international nomenclature committee of the World Health Organization ultimately decided to keep the Chinese term for this meridian, since San Jiao really has no correspondence in Western anatomical thinking. The classical division of the body was distinguished as three regions: the upper jiao (the chest region that regulates circulatory and respiratory functions), the middle jiao (the upper abdominal region which affects digestive functions) and the lower jiao (the lower abdominal region which affects sexual and excretory functions). The upper burner of San Jiao is like a vaporous mist in the region of the heart and lungs, the middle burner is like foam in the region of the stomach and spleen and the lower burner is like a dense swamp in the region of the kidneys, intestines and bladder. San Jiao refines the subtle essence of qi the way a granary refines flour or a brewery distills alcohol. The physiological effects of San Jiao are possibly related to the arousal actions of the sympathetic nervous system and the release of circulating hormones by the endocrine system.

Spirit (shen): This substance serves as the vitality behind the animation of qi, the flow of blood and the instinctual processes related to individual essence (jing). Shen is associated with human consciousness and the force of human personality to think, feel, discriminate and choose. It is associated with a particular behavioral style and it affects the choice of a particular vocational path in life. One of the most widely used points in all of auriculotherapy is the Shen Men point in the triangular fossa. This Chinese ear point has a profound effect on spirit, will and general wellbeing.

2.3 Ayurvedic medicine, yoga and prana energy

While the ancestral source of Chinese medicine is not fully known, many of the concepts used in acupuncture are said to come from the Vedic texts of ancient India. The principles described in the Vedas were developed in India by 1500 BCE and have been presented in recent evaluations of complementary medicine for the disciplines of yoga (Ross 2001) and ayurvedic medicine (Manyam 2001). In Sanskrit, *ayu* referred to life, and *veda* referred to science, thus *ayurveda* denoted the science of life. The Vedas included a scientific understanding of body, mind and spirit. Ayurveda was a complete system of medicine, with separate branches for surgery, internal medicine, toxicology, pharmacology, neurology and psychology. The *Yoga Sutras* of Pantanjali were written in 200 BCE. This text was one of the first documents to describe the healthcare practices of yoga. *Pranayamas* are specific types of breathing, *asanas* are disciplined postural movements, *dyanas* are practices of contemplative meditation, and *samadhi* is blissful union with the supreme existence of all things.

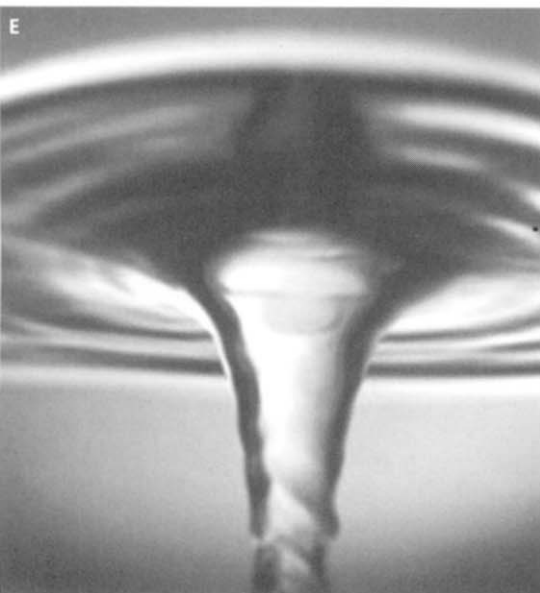
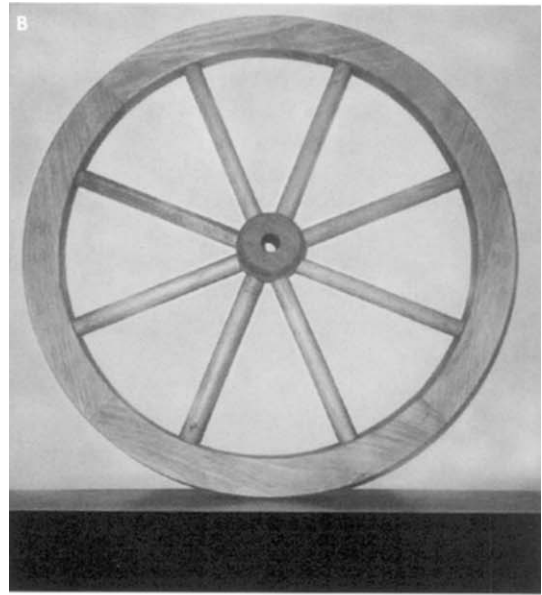
Prana: A fundamental principle of this Indian tradition is that the body is composed of energy, not just material substance. This energetic view of the human body is very similar to Chinese medicine. Illness was said to be due to the blockage of energy. Through different yoga disciplines, it was possible to enhance the circulation of energy in order to facilitate healing from a disease. Ayurvedic practitioners refer to the primal energy as *prana*, which also means breath. Hindu and Buddhist teachings assert that the soul enters the body with an infant's first breath and the soul leaves the body with a person's last breath. The soul is then ready for a new reincarnation, when the process of life through breath is repeated. While incarnated on this earth, a person is challenged with many lessons for the soul's evolution, including the challenge of taking care of the physical body. *Karma* is not punitive retribution for past sins, as it is often thought of in the West, but is instead a guide for educating the soul in correcting previous mistakes in living. It is not necessary to believe in the religious philosophies of Hinduism or Buddhism in order to find benefit in the breathing and postural practices of yoga or the herbs used by ayurvedic practitioners. The energetic perspectives of the human body, though, are a fundamental component in understanding how these spiritual traditions have been applied to ayurvedic clinical treatments.

Nadis: Similar to the acupuncture meridians, Vedic writings described channels of energy extending over the surface of the body through which prana can flow. In India, the channels were called *nadis*. Said to be a conduit between the gross anatomical body and the subtle etheric body, the network of 350 000 nadis resembles modern descriptions of nerves and nerve plexuses. Of the different energy channels in ayurvedic medicine, the three most important were the *sushumna*, the *ida* and the *pingala*. The main channel was the *sushumna*, which rose from the tailbone up the spine. The *ida* and the *pingala* spiral up the spine on each side of the *sushumna*. These three primary channels were depicted as two coiled serpents spiraling up a central staff, remarkably similar to the Egyptian, Greek and Roman caduceus symbol of healing. The *sushumna* has been said to correspond to the central nervous system, the *ida* represents the sedative parasympathetic nervous system, and the *pingala* affects the fight-or-flight-related sympathetic nervous system. The location of the *sushumna* along the spine coincides with the midline front mu and back shu meridian channels of Chinese acupuncture. In both the Vedic *sushumna* channel and Chinese mu–shu channel, vital energy ascends the spine toward the head.

Five Vedic elements: Just as there were five principal elements or phases in Oriental medicine, five primary elements are described in ayurvedic medicine. Referred to as five categories of matter (*panchamahabhutas*), these basic elements included earth (*prthvi*), water (*ap*), fire (*tejas*), air (*vayu*) and universal etheric space (*akasa*). The primordial sound of 'Om' was said to create air from etheric space, which generated friction as it moved. This friction created fire and heat, which ultimately cooled and manifested as water, and finally became earth. The *Materia medica* of *ayurveda* contained a list of several hundred botanical herbs that employ the principles of these five elements in order to heal various diseases, just as the medical application of different Chinese herbs used the principles of five phases.

The five Vedic elements combined to form different constitutional types of mind–body interactions. These body types are known as the three *doshas*, which are *vatha*, *pitta* and *kapha*.

Figure 2.18 Images of chakra motion are represented as a chariot wheel (A), a wagon wheel (B), the top of a whirlpool (C), a water wheel (D), the side view of a whirlpool (E), or the swirling pattern of tornados (F). (B from Cellox, Reedsburg, WI, with permission; D © Lita Singer, with permission; F from NOAA/OAR/National Severe Storms Laboratory, Norman, OK.)



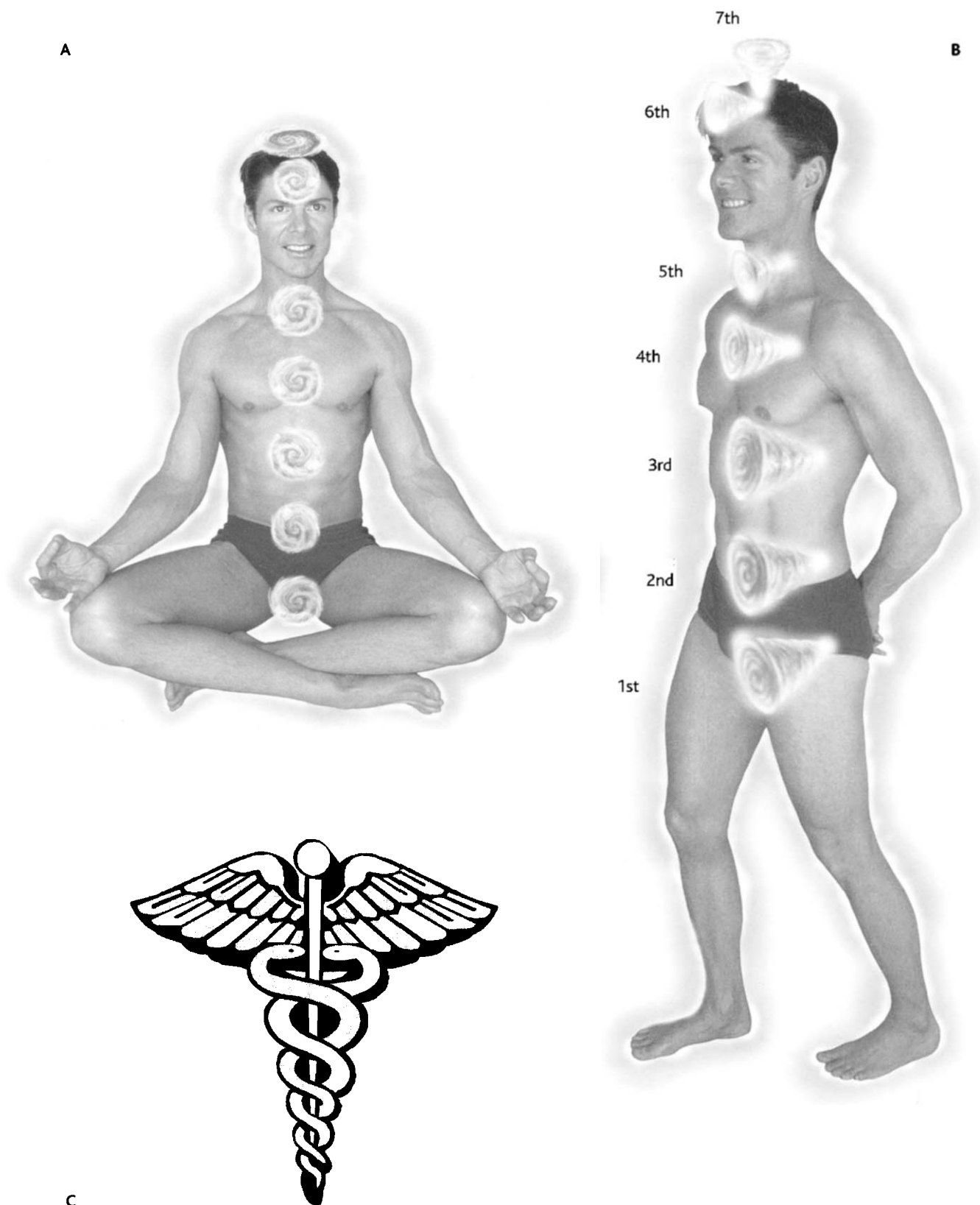


Figure 2.19 The seven chakras found along the vertical axis of the body viewed from the front (A) and the side (B). The caduceus symbol (C), still used in modern medicine, has ancestral roots in the nadis of Vedic scriptures which show the sushumna that rises up the spine surrounded by the snake-like undulations of the ida and the pingala nadis.

Vatha combines air with ether to control the propagation of nerve impulses and the movement of muscles. Pitta utilizes the element of fire, thus affecting physiochemical activities of general metabolism that produce heat and energy throughout the body. Kapha combines water and earth to maintain cohesiveness in the body by providing it with a fluid matrix. An excess of kapha, however, can lead to slow metabolism, chronic lethargy, obesity or clinical depression. The five Vedic elements and the three doshas facilitate an intuitive understanding of personal constitution and its effects on health.

Seven chakras: Natural sources for facilitating the flow of prana were the chakras (pronounced shaw-kraws). The word chakra refers to a spinning wheel, like the appearance of a rapidly rotating, multi-spoked wheel on a carriage as it moves along a road (Motoyama 1981, Tansley 1984). They are analogous to rotating water wheels and windmills. In modern times, the rotating gears of a motor engine or the rapid rotation of the propeller on an airplane might be equivalent analogies. When viewed from the side, as opposed to a frontal perspective, the chakras appeared like a whirlpool, a whirlwind, or a tornado (see Figure 2.23). Each chakra is a vortex of circling, spiraling, swirling forces of invisible energy. These chakras are found over specific regions of the body, just as the spinning pattern of hurricanes occurs over specific regions of the earth as seen from modern satellites. The swirling vortex of energy ascribed to the chakras is considered a possible explanation for the manner in which energy circulates at acupuncture points. There are minor chakras at each joint of the body, at the hands, the wrists, the elbows, the shoulders, the hips, the knees, the ankles and the feet. Vedic texts also described secondary chakras at the ears. Most of the focus in ayurvedic medicine, though, is on the seven primary chakras that ascend the midline of the body. The axial position of these chakras runs along the sushumna. The ida and the pingala undulate up the spine in a spiral pattern, crossing each other at each chakra. All seven chakras are shown from a frontal and a sagittal perspective in Figure 2.19. The first chakra resides at the base of the spine, in the region of the male genitals, and is the initial source for the rise of the *kundalini* energy that is essential for survival. The second chakra is located within the lower abdomen, the third chakra within the upper abdomen, the fourth chakra within the chest and heart, the fifth chakra at the lower throat, the sixth chakra between the eyebrows, and the seventh chakra at the top of the head. Seen from the side, the chakras appear like funnels, with the tip of these spinning cones of energy at the posterior spine and the broader circular base of the cone toward the anterior body. Ancient texts pictured the chakras as many-petaled lotus blossoms, with their stem toward the spine and the blossom petals toward the front of the body. The chakras were not limited to these cone-like configurations, but were actually broad fields of spiraling energy that could extend well beyond the physical body.

Each of the seven primary chakras is located next to the anatomical position of an endocrine gland, and the force field of each chakra produces functional changes that are similar to the effects of the hormone released by that endocrine gland. The first chakra is found in the scrotal region of the male genital organ, the testis, whereas the second chakra occurs in the pelvic region of the female genital organ, the ovary. Testosterone produces a feeling of physical power, aggressive rage, and sexual excitement. The estrogen released by the ovary induces feminine sexual receptiveness while the hormone progesterone facilitates maternal bonding. The third chakra lies in the region of the abdominal adrenal gland. The adrenalin and cortisol released by the adrenals mobilizes the energy to deal with stress and strain. The primary endocrine gland found near the heart chakra is the thymus gland at the center of the chest and is part of the immune system. The fifth chakra is located at the base of the throat, near the thyroid and parathyroid glands. Thyroxin released by the thyroid gland enhances general metabolism when elevated, but a sense of fatigue and lethargy when diminished. The sixth and seventh chakras that are centered in the head are found in the location of the pineal gland and the pituitary gland. The pineal releases the hormone melatonin that regulates sleep–wake patterns, whereas the pituitary releases specific hormones that control other endocrine glands.

The first chakra is said to take the base physical energy from the earth and transmute its raw substance to a more refined essence for the body to assimilate. The higher chakras transform the energy of the lower chakras into even finer forms, similar to the Chinese descriptions of distillation by the three burners of San Jiao. The first and second chakras are very similar to the urogenital functions of the lower jiao, the third chakra to the digestive functions of the middle jiao, and the fourth and fifth chakras to the circulatory aspects of the upper jiao. When representing the front of

the chakras as lotus blossoms, the lower chakras are shown with just a few petals and higher chakras are depicted with progressively more petals. Specifically, the flowers for the first chakra have four petals, the second chakra has six petals, the third chakra has ten petals, the fourth chakra has 12 petals, the fifth chakra has 16 petals, the sixth chakra has 96 petals, and the seventh chakra has 960 petals. The sixth chakra is often pictured as two large petals over the forehead region, looking almost like the left and the right cerebral hemispheres, while the seventh crown chakra is referred to as the thousand petaled lotus. These many-petaled lotus flowers metaphorically suggest that the spinning wheels of the chakras rotate faster as one ascends the spine.

Chakra colors: In metaphysical texts by Beasley (1978) and by Bruyere (1989), the chakras are represented by the colors of the rainbow. Red is associated with the first chakra, from which the primordial energy of the kundalini begins its ascent up the spine. Just as red is the lowest frequency in the visible spectrum, the kundalini chakra has the lowest vibration rate. Progressively higher frequencies of color that are due to different wavelengths of light rays that are associated with progressively higher chakras spinning at progressively higher frequencies of revolution. The chakra colors progress from red at the base chakra to the slightly higher resonance rates of orange at the second chakra. The still faster color of yellow is associated with the third chakra, green with the fourth chakra, blue with the fifth chakra, purple or indigo with the sixth chakra, and ultimately white and violet with the seventh chakra. The higher frequencies of the higher chakras are said to represent higher planes of spiritual existence. This range of hues is actually an idealized version of the way the chakra colors would appear in a perfectly healthy person, but a rainbow pattern is rarely the color spectrum seen on an actual person, particularly someone with an illness. Other descriptions of the chakras allude to a different set of colors at each location, such as green at the second chakra and yellow at the fourth chakra. The auricular medicine perspectives that developed in Europe also emphasized seven basic frequencies that affect the seven different types of tissue in the body. The lowest frequencies in auricular medicine characterized primitive instinctual processes, whereas the higher frequencies are associated with higher neurological functioning.

Many Western investigators considered the chakras to be more symbolic than real. However, Western as well as Eastern physicians have reported that they can feel as well as see these chakra forces. The California physician Brugh Joy (1979) described his observations of the subtle energy fields. Although he had not read any ayurvedic writings, Joy could sense vibrational changes over a patient's body which precisely corresponded to the locations of the seven Vedic chakras. Electrophysiological research at UCLA by Dr Valerie Hunt found that these chakra energy

Table 2.4 Relationship of seven chakras to different functions

Chakra name	Location	Gland	Element	Animal traits	Lotus petals	Color	Function
1. Base chakra (<i>Muladhara</i>)	Groin	Testis	Fire	Serpent, dragon	4	Red	Survival instincts, rage, vitality, physical power
2. Pelvic chakra (<i>Svahishthana</i>)	Pelvis	Ovary	Water	Fish	6	Orange	Deep emotions, sexual functioning
3. Solar plexus (<i>Manipura</i>)	Upper abdomen	Adrenal	Air	Bird	10	Yellow	Intellectual mind, personal will
4. Heart chakra (<i>Anahata</i>)	Chest	Thymus	Earth	Mammal	12	Green	Empathy, love, compassion
5. Throat chakra (<i>Viahuddua</i>)	Throat	Thyroid	Ether	Human	16	Blue	Verbal expression, speech, creativity
6. Third eye (<i>Ajna</i>)	Forehead	Pineal		Soul	96	Purple	Intuition, psychic vision
7. Crown chakra (<i>Sahasrara</i>)	Vertex of head	Pituitary		Spirit	960	White and violet	Worldly wisdom, spiritual awareness

patterns could be scientifically measured. Working with the aura reader and spiritual teacher Rosalyn Bruyere (1989), Hunt recorded specific electrophysiological changes in very high frequency waves of the electromyogram (EMG). Surface EMG electrodes were placed over specific chakra locations on the bodies of human volunteers. As the aura reader reported distinct changes in the color and pattern of the auric energy field at different chakras, the physiological equipment indicated specific changes in electrophysiological frequency and voltage amplitude. The different energy patterns reported by the aura reader for each chakra position were found to correspond to specific EMG patterns recorded by the electrophysiological equipment. No other laboratory has attempted to replicate Hunt's research, thus a scientific explanation for these experiences remains to be determined.

Chakra acupuncture: The German physician Gabriel Stux (1998) has described a procedure called chakra acupuncture as an expansion of the practice of traditional Chinese acupuncture. The chakra energy centers of ayurvedic medicine are activated in a manner similar to stimulation of the Chinese zang-fu channels. Traditional Chinese acupuncture seeks to harmonize the flow of qi by dissolving the blockages in the channels and organs, and there is a similar aim in ayurvedic medicine. Conditions of excess or deficiency can be balanced by harmonizing the yin and yang forces of each of the seven chakra centers. Chakra acupuncture extends the traditional application of acupuncture to the Vedic chakra system for both diagnosis and treatment. In chakra acupuncture, chakra points are needled in the area of the seven primary energy centers. Energy flow stimulated by this needling is referred to as 'opening of the chakras.' The most frequently used chakra acupoints are GV 20 to activate the seventh chakra, GV 15 to stimulate the sixth chakra, and CV 17 and GV 11 to balance the fourth chakra.

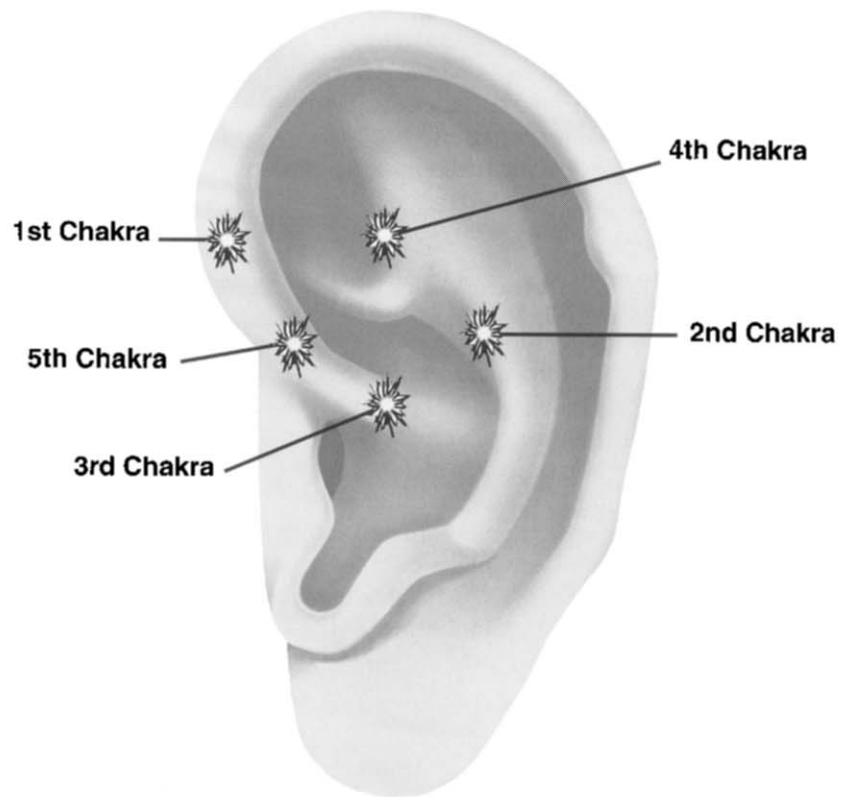
Besides needling the chakra points on the body, Stux asks the patient to concentrate deliberately on the body area that is being needled or electrically stimulated. After a short time, the patient usually feels a slight tingling sensation or a discreet, warm flowing sensation in this chakra area. The practitioner focuses his or her attention on this region too. When the flow through one energy center is clearly perceptible to the patient, treatment proceeds to the next energy center. The patient is asked to breathe into the chakra area, to hold his or her conscious awareness there, and to imagine opening the chakra until he or she feels a sensation of wideness, charge and flow in that region. By attentively opening each energy center, the internal flow of life force is promoted. The individual brings awareness or mental focus on a chakra region, then the person identifies the location, borders, size, temperature, color and emotions of that body area. The next step is to release the blocked or stagnant energy, thus transforming the density of the blockage through breathing consciously into that region.

Chakras and auricular acupuncture: The Dutch physician Anthony Van Gelder (1999) has suggested that the chakras are also represented on the external ear. The location of auricular areas associated with each of the seven primary chakras coincides with certain ear acupoints known as master points. The first three chakras respectively correspond to the auricular master points referred to as the Sympathetic Autonomic point, the ear point Shen Men, and Point Zero. The representation of the other chakra centers is not so generally accepted, but in Van Gelder's work they are localized at the root of the helix of the ear. An alternative correspondence system for the chakras correlates the upper chakras to the European auricular points known as Wonderful point, Thalamus point, Endocrine point, and Master Cerebral point. Different possible representations of the chakras upon the external ear are indicated in Figure 2.20.

2.4 Holographic model of microsystems

In *The holographic universe*, Michael Talbot (1991) describes how the technology of the hologram can serve as a model for many unexplained phenomena, including the somatotopic microsystem found on the external ear. A hologram is created when a laser light is split into separate beams. Angled mirrors are used to bounce the laser beam off the object being photographed. A second laser beam is bounced off the reflected light of the first laser beam. The collision of these reflected laser beams generates an interference pattern on the holographic film. This interference pattern is the area where the two laser beams interact on the film. When the film is developed, it looks like a meaningless swirl of light and dark images, composed of crisscrossing lines, concentric circles and geometric shapes similar to snowflakes. However, when the developed film is illuminated by another laser beam, a three-dimensional image of the original object appears. One could actually

A. Auricular Chakras described by Van Gelder



B. Auricular Chakras described by Oleson

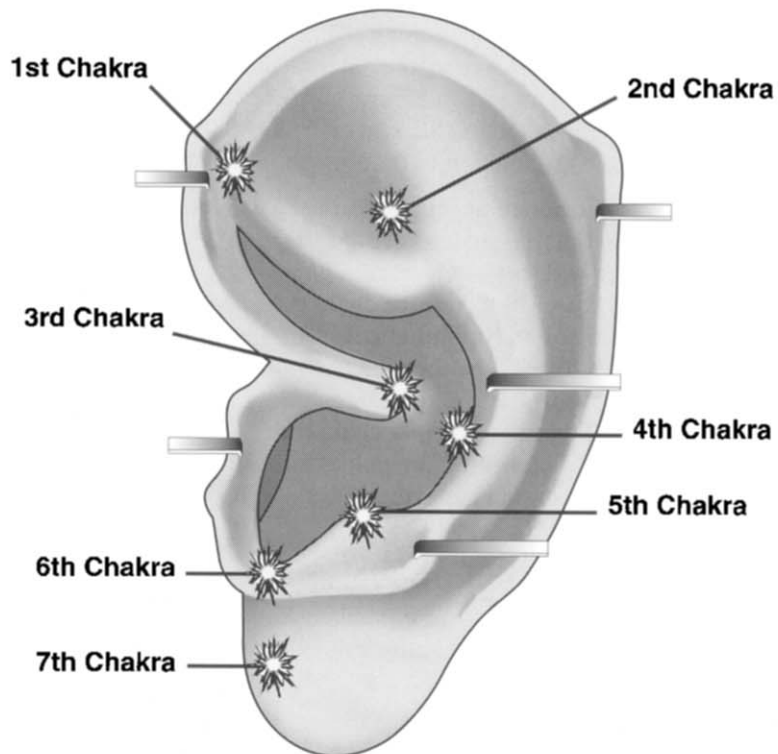


Figure 2.20 (A) Five of the seven chakras have been depicted by Van Gelder as located in the upper external ear. (B) All seven chakras are shown on the auricle from a different perspective developed by Oleson.

walk around this three dimensional image and view the hologram from different sides. For the purpose of this discussion, the more intriguing aspect of holograms is that each part of the holographic film contains an image of the whole object that was photographed. In standard photography of a man, for instance, one section of the photographic negative would just contain the image of the head and another section would just include the image of the foot. In holographic photography, all sections of the film contain all the images of the head, the foot, and the entire body in between. A diagram of holographic equipment is shown in Figure 2.21 and a holographic image of man is shown in Figure 2.22.

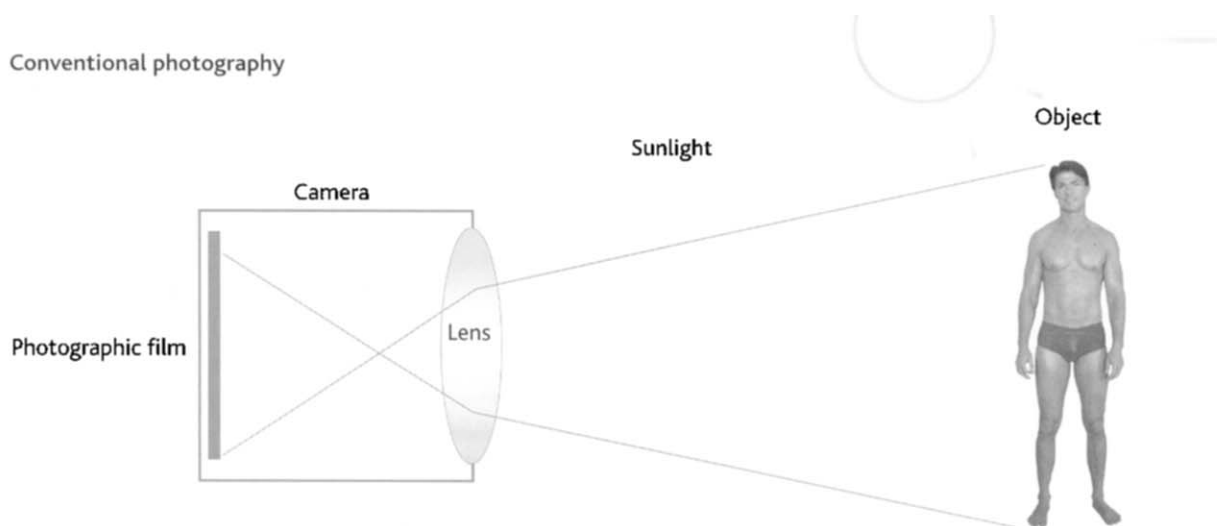
The respected Stanford University neurobiologist Karl Pribram used the model of the hologram to explain research experiments demonstrating that memory can be stored in many parts of the brain. Pribram suggested that individual neurons in different parts of the brain have an image of what the whole brain can remember. According to this model, memories are encoded not in neurons, or even small groupings of neurons, but in patterns of nerve impulses that crisscross the entire brain. This brain map is similar to the way that interference patterns of laser light crisscross the entire area of a piece of holographic film. The holographic theory also explains how the human brain can store so many memories in so little space. It has been estimated that the human brain has the capacity to memorize something in the order of 10 billion bits of information during the average human lifetime. Holograms also possess an astounding capacity for information storage. Simply by changing the angle at which the two lasers strike a piece of photographic film, it is possible to record many different images on the same surface. It has been demonstrated that one cubic centimeter of holographic film can hold as many as 10 billion bits of information. One of the most amazing aspects about the human thinking process is that every piece of information seems instantly cross-correlated with every other piece of information, another feature intrinsic to the hologram. Just as a hologram has a translating device that is able to convert an apparently meaningless blur of frequencies into a coherent image, Pribram postulates that the brain also employs holographic principles to mathematically convert the neurophysiological information it receives from the senses to the inner world of perceptions and thoughts.

The British physicist David Bohm hypothesized that the energy forces which regulate subatomic particles could also be accounted for by the holographic model. In 1982, a research team led by physicist Alain Aspect, at the University of Paris, discovered that one of two twin photons traveling in opposite directions was able to correlate the angle of its polarization with that of its twin. The two photons seemed to be non-locally connected. The paired particles were able to instantaneously interact with each other, regardless of the distance separating them. It did not seem to matter whether the photons were a millimeter away or 13 meters apart. Somehow, each particle always seemed to know what the other was doing. Bohm suggested that the reason subatomic particles can remain in contact with one another is not because they are sending some sort of mysterious signal back and forth. Rather, he argued that such particles are not individual entities to begin with, but are actually extensions of the same, subatomic substance. The electrons in one atom are connected to the subatomic particles that comprise every other atom. Although human nature may seek to categorize and subdivide the various phenomena of the universe, all such differentiations are ultimately artificial. All of nature may be like a seamless web of energy forces.

Talbot (1991) concluded from the work of these two noted scientists that the cosmos, the world, the human brain, and each subatomic particle are all part of a holographic continuum: 'Our brains mathematically construct objective reality by interpreting frequencies that are ultimately projections from another dimension, a deeper order of existence that is beyond both space and time.' Just as each part of the holographic negative holds an image of the whole picture, Talbot further suggested that the auricular microsystem could hold an image of the whole body. All microsystems might function like the echo resonance, waveform interference patterns in a hologram, energy signals being transmitted from the skin to the corresponding body organs. Similar to photographic hologram plates, each part of the auricle might integrate energetic signals from all the parts of the human body. Ralph Alan Dale (1991, 1999) in America, Ying-Qing Zhang (1980, 1992) in China, and Vilhelm Schjelderup (1982) in Europe have all used this holographic paradigm to account for the somatotopic pattern of acupoints found in every micro-acupuncture system they have examined.

The holographic model of microsystems is speculative, but it is congruent with the traditional Chinese perspective that every organ in the body is related to specific acupoints on the surface of

A Conventional photography



B Holographic photography

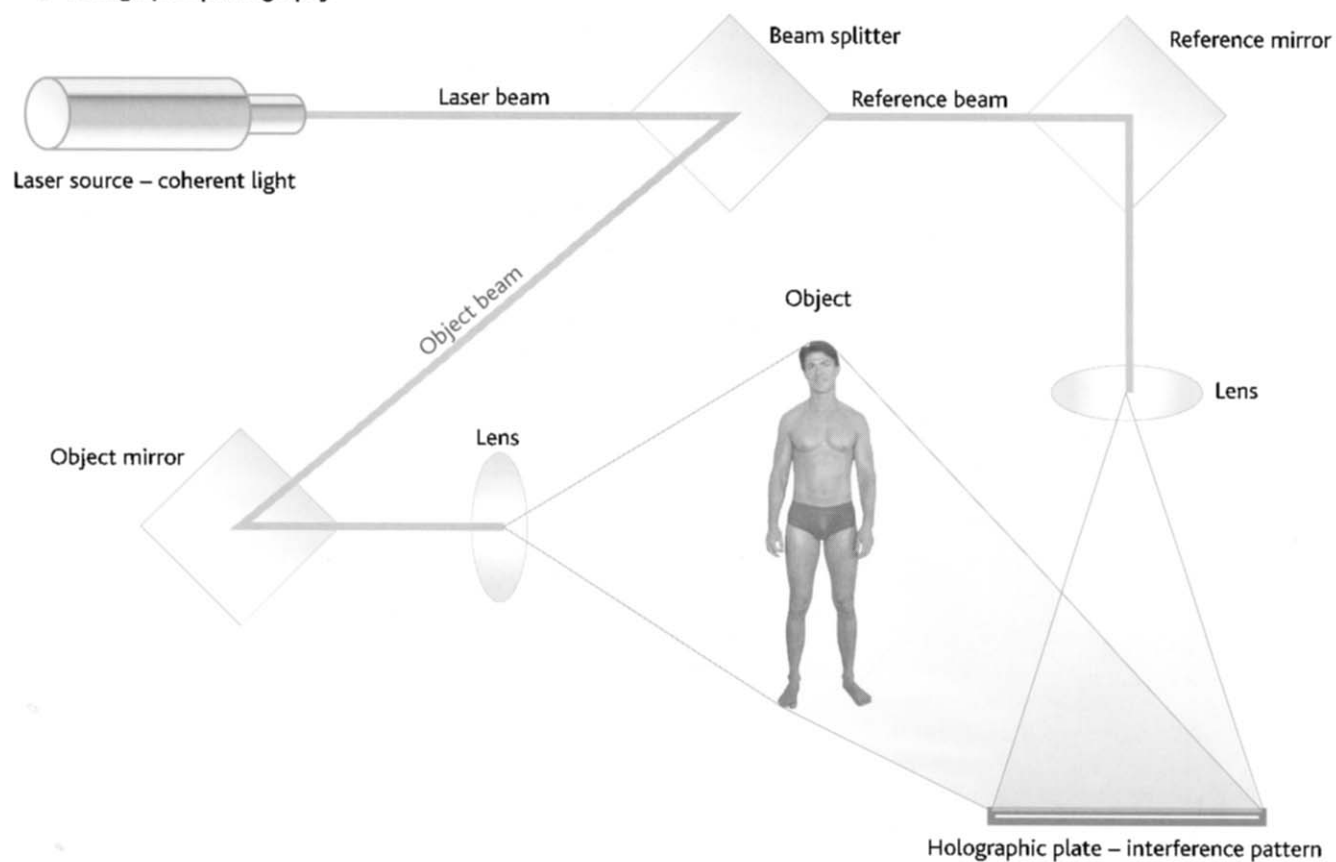


Figure 2.21 *Conventional (A) and holographic (B) photographic equipment.*

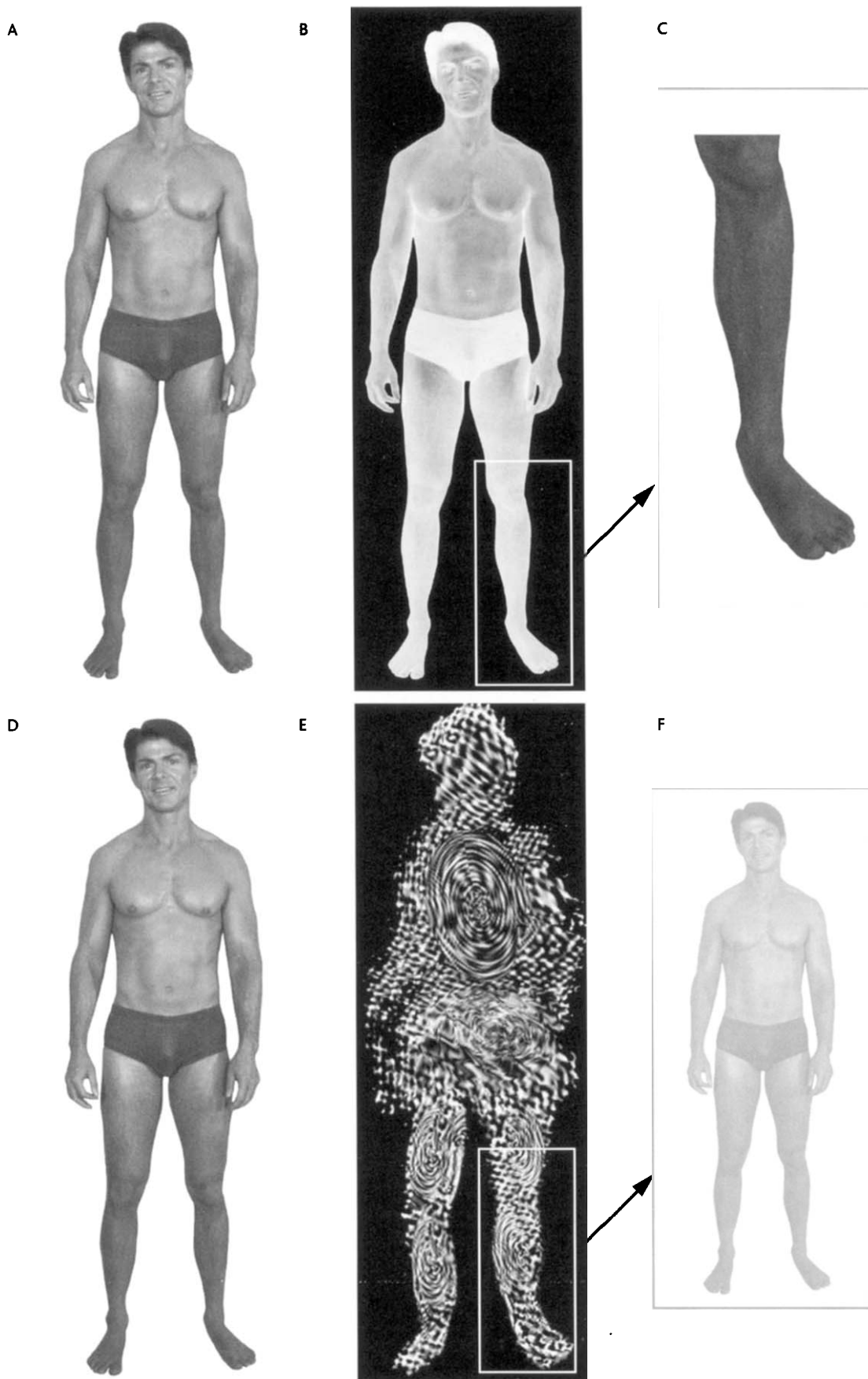


Figure 2.22 In standard photographic procedures, the original object (A) is converted to a negative image on film (B). When it is developed, a small portion of that negative only contains one part of the picture (C). In holographic photography, the original object (D) is converted to a distorted image of interference patterns (E). A portion of the holographic negative contains an image of the whole picture (F).

the body. In his book *The Web that has no weaver*, Kaptchuk (1983) states 'the cosmos itself is an integral whole, a web of interrelated things and events. Within this web of relationships and change, any entity can be defined only by its function, and significance only as part of the whole pattern.' Another Stanford scientist has also examined this perspective. The physicist William Tiller (1997, 1999) contends that there are non-spatial, non-temporal energy waves functioning in various bands of a vacuum. His research showed that it was possible to focus human intention to alter the physical properties of substances in a simple electronic device. Research participants in a focused meditative state were able to induce an increase or decrease in the pH level of water by the simple act of their intention. There was a small but consistent alteration in the pH level of water electromagnetically isolated inside a container within a Faraday cage. The pH level changed in a -1.0 negative direction when the meditators focused on lowering the pH and changed in a +1.0 positive direction when the meditators focused on raising pH. According to Tiller, the results of these experiments suggest that there is a transfer of unconventional information in previously unknown frequency domains. This unconventional energy could serve as the foundation for auricular medicine and other holographic microsystems. The research investigations by Tiller highlight the role of the healing intention of the practitioner when working with a patient using any healthcare modality.

Many in the West are not comfortable with the concept of a nebulous, invisible energy matrix, whether perceived from the orientation of Chinese medicine or from the speculations of quantum physicists. That such energetic viewpoints would be the primary foundation for auriculotherapy is not reassuring to such individuals. A great split in the European auricular medicine community occurred when Paul Nogier expounded the notion of 'reticular energy' as an explanation for the clinical phenomena he observed. Nogier proposed that 'reticular energy' was a vital force that flowed in all living tissue and that it propagated the exchange of cellular information. Any stimulation of the smallest part of the body by this reticular energy was said to be immediately transmitted to all other regions. When a survey was taken of professionals at the 1999 International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine, most of the respondents indicated that they considered the holographic model more as a useful analogy than an actual entity. Nonetheless, the notion that one part represents the whole applies to the basic principles of microsystems as well as to the phenomena of holograms.

2.5 Neurophysiology of pain and pain inhibition

Classical Chinese medicine did not really include the role of the nervous system as currently conceived in Western medical science. Even recent Chinese ear acupuncture charts contain just a few auricular localizations for the brain. In contrast, the auriculotherapy texts by Nogier (1972) and Bourdiol (1982) predominantly focus on a neurological explanation for this auricular reflex system. There have been many advances in the field of neuroscience in the last several decades which have substantially altered basic understanding of pain pathways. It is now known that there are mechanisms by which the nervous system perceives pain and nearby neural circuits by which the brain can suppress the pain experience. Neurophysiological research has also examined the role of both ear acupuncture and body acupuncture in altering these same neurobiological processes of pain perception and pain modulation. Some investigators believe that all of the energetic qualities described in Chinese medicine can ultimately be accounted for by observable electrophysiological and biochemical phenomena in the brain and nervous system. Research studies demonstrating the different regions of the brain that affect the basic mechanisms of acupuncture are reviewed in Birch & Felt (1999), Cho et al. (2001), Stux & Hammerschlag (2001) and Weintraub (2001).

Neurons: The fundamental units of the nervous system are the individual neurons, long slender threads of nerve tissue which are one of the few types of cells that can carry electrical signals. Body acupuncture points occur at regions underneath the skin where there is a nerve plexus or where a nerve innervates a muscle. One feature of myelinated neurons is that the speed of neural impulses is increased by the presence of segments of high electrical resistance myelin separated by gaps of lower electrical resistance nodes of Ranvier. This aspect of neurons corresponds to the electrodermal feature of acupuncture points, a series of low-skin-resistance gap junctions separated by regions of high-skin-resistance non-acupuncture points.

Nociceptors: Although it is the cause of much unwanted suffering, pain is nonetheless a biological necessity. Pain sensations trigger protective withdrawal reflexes essential for survival. The initiation of pain signals begins with the activation of microscopic neuron endings in the skin, the muscles, the joints, the blood vessels or the viscera. Since these sensory receptors are excited by noxious stimuli, capable of damaging cellular tissue, they have been called nociceptors. Electric shock, intense heat, intense cold or pinching of the skin all lead to an increase in the neuronal firing rate of nociceptors. The natural stimuli for nociception, however, seem to be an array of biochemicals released into the skin following injury to a cell. Subdermal acidic chemicals that activate peripheral nociceptors include prostaglandins, histamine, bradykinin and substance P. In contrast, those sensory neurons specifically responsive to soft touch are called mechanoreceptors and those skin receptors affected by changes in heat or cold are called thermoreceptors. Insertion of acupuncture needles seems to activate nociceptors in deep muscles for body acupuncture and the nociceptors in the skin for ear acupuncture.

Peripheral nerve pathways: Afferent sensory neuron fibers travel in bundles of nerves that project from the peripheral skin surface or deep-lying muscles toward the central nervous system at the midline of the body. Each neuron is capable of rapidly carrying electrical neural impulses over long anatomical distances, such as from the foot to the spine, or from the fingers to the neck. The neurons from mechanoreceptors, thermoreceptors and nociceptors all travel along together, like the individual copper wires in an extension cord. However, the type of neuron carrying each type of message is different. The categories of neurons are distinguished by the size and the presence of myelin coating. The thinnest neurons, which have no myelin coating, are called Type C fibers and tend to carry information about nociceptive pain. The next larger group of neurons are called Type B fibers, which are larger and have some myelin coating. They typically carry information about skin temperature or internal organ activity.

Neurons that have the thickest diameter are called Type A fibers. The Type A neurons are myelinated and large in size, making them much faster conductors than the Type B and Type C fibers. They are further subdivided into Type A beta fibers, which carry information about light touch stimuli activated by mechanoreceptors, and Type A delta fibers, which are not as large nor as fast as the A beta fibers and carry information about nociceptive pain. The A delta fibers are still faster than the Type C fibers, which also are activated by nociceptors. When one is hurt, there is initially the perception of first pain from information carried by A delta fibers and then the perception of second pain carried by C fibers. First pain is immediate, sharp, and brief, like a pin prick, whereas second pain is more throbbing, aching, and enduring, as when one is burned or hits one's hand with a hammer. Chronic pain sensations seem more related to C fiber activity than A delta fiber activity, as C fiber firing can summate over time rather than habituate. The fastest neurons are Type A alpha fibers. These motor neurons carry electrical impulses from the spinal cord to the peripheral muscles, thus completing a sensory-motor reflex arc. Type A gamma motor neurons are regulated by proprioceptive feedback from sensory organs in muscle fibres that serve to regulate muscle tone. Dysfunctional neural firing in this proprioceptive feedback seems to be the source of the maintained muscle contractions which lead to chronic myofascial pain.

Spinal cord pathways: The spinal cord is divided into central gray matter surrounded by white matter, so designated because the neurons in white matter are more thickly coated with white fatty myelin. When cut into cross sections, the gray matter looks like a butterfly, with a left and a right dorsal horn (posterior horn) and a left and a right ventral horn (anterior horn). Sensory neurons carrying nociceptive signals synapse in the first and fifth layers of the ipsilateral dorsal horn, whereas messages concerning light touch synapse in the fourth layer of the dorsal horn. These different messages about touch versus pain are then sent up to the brain in two separate sections of the spinal white matter. Information about touch is carried in the dorsal columns of the spinal cord, while information about nociceptive pain is carried in the anterolateral (ventrolateral) tract of the spinal cord. Impulses along spinal neurons travel up the respective regions of white matter to carry information about touch or about pain to higher brain centers.

Higher brain processing centers: The overall organization of the brain is divided into the lower brain, the intermediate brain, and the higher brain. Spinal pathways connect to the brainstem at the medulla, ascend to the pons and then the midbrain. The reticular formation extends throughout the core of the lower brain, receiving tactile and nociceptive messages from the spinal cord and activating higher brain centers to produce general arousal. The serotonergic raphe nuclei

that facilitate sleep and sedation are also found in the medulla, pons and midbrain. The intermediate brain consists of the thalamus, the hypothalamus, the limbic system, and the striatum or basal ganglia. The thalamus somatotopically projects sensory messages to the cortex and modulates sensory information that ascends to consciousness. The hypothalamus and the limbic system affect sympathetic arousal and the emotional qualities of pain. The higher brain center consists of the four lobes of the neocortex, the somatosensory parietal lobe, the visual occipital lobe, the auditory temporal lobe, and the movement control centers in the frontal lobe and prefrontal lobe.

Gate control theory: Melzack & Wall (1965) proposed that inhibitory interneurons in the dorsal horn of the spinal cord are differentially affected by input from A fiber and C fiber neurons. The fast-conducting A beta fibers, which carry information about light touch, excite inhibitory interneurons to suppress the experience of pain. Slow-conducting C fibers, which carry information about pain, inhibit these same inhibitory interneurons. The consequence of inhibiting a neuron which is itself inhibitory results in a further increase in neural discharges that ascend toward the brain in the spinal white matter. The dorsal horn gating cells allow only brief neural excitation following input from tactile A beta fibers, whereas they allow prolonged neural excitation following activation of nociceptive C fibers. The occurrence of brief versus prolonged bursts of neuronal firing accounts for differences in the perception of touch versus pain. Supraspinal gating systems in the brain were theorized to send descending input down to the spinal inhibitory neurons, which thus allowed the brain to suppress the incoming pain message.

Stimulation-produced analgesia: Empirical support for the existence of descending pain inhibitory pathways occurred in the 1970s with research investigations at UCLA by Liebeskind and Mayer (Liebeskind et al. 1974; Mayer et al. 1971; Mayer & Liebeskind 1974). Electrical stimulation of the midbrain periaqueductal grey (PAG) was found to suppress behavioral responses to noxious heat or noxious electric shock. One of the most surprising findings was that this stimulation-produced analgesia could be antagonized by the opiate antagonist, naloxone (Mayer et al. 1977). Although the periaqueductal grey was the most potent region to produce analgesia in rats and cats, brain stimulation research in monkeys (Oleson & Liebeskind 1978; Oleson et al. 1980a) demonstrated that the thalamus was the most potent primate site to yield stimulation-produced analgesia. Examination of deep brain stimulation in human patients has produced similar findings (Hosobuchi et al. 1979). Human research has also confirmed that nociceptive pain messages activate positron emission tomography (PET) scan activity in the periaqueductal grey, thalamus, hypothalamus, somatosensory cortex and prefrontal cortex of man (Hsieh et al. 1995). These are the same brainstem and thalamic areas that are able to suppress pain messages. While direct connections between auricular acupuncture points and these antinociceptive brain pathways has not yet been investigated, neurophysiological investigations of body acupuncture points suggest that the regions of the brain related to pain inhibition are also affected by the stimulation of acupoints (Kho & Robertson 1997).

Descending pain inhibitory systems: The midbrain periaqueductal grey (PAG) was one of the first brain regions where stimulation-produced analgesia was demonstrated. It was subsequently found also to be activated by microinjections of morphine and to contain opiate receptors that respond to the beta-endorphins. Neurons in the dorsal raphe nuclei and raphe magnus can be excited by PAG stimulation. These serotonergic raphe cells descend the spinal cord in the dorsal lateral funiculus and synapse on gating cells in layer II of the dorsal horn. Basbaum & Fields (1984) showed that lesions in the descending, dorsolateral funiculus tract in the spinal cord blocked behavioral analgesia from deep brain stimulation. The raphe neurons release serotonin to excite the spinal gating cells, which release enkephalin to inhibit afferent nociceptive neurons. A different descending pathway carries impulses from the reticular formation, releasing the neurotransmitter norepinephrine to activate the inhibitory gating cells in layer III of the dorsal horn. Curiously, there is also a descending pain facilitation system in the central nervous system. Wei et al. (1999) have shown that destruction of descending, serotonergic pathways from the raphe magnus and descending noradrenergic pathways from the locus ceruleus both lead to an increase in the Fos protein activity of nociceptive spinal neurons. Conversely, destruction of descending reticular gigantocellular pathways leads to a decrease in the Fos protein activity of nociceptive spinal neurons. The pain inhibition system was selectively damaged by the raphe and locus ceruleus lesions, whereas the pain facilitation system was disconnected by the reticular lesion.

Neural pathways of acupuncture analgesia: There are two major CNS pathways that lead to acupuncture analgesia, an afferent sensory pathway and an efferent motor pathway. Stimulation of acupuncture points activates the afferent pathway that travels from peripheral nerves into the spinal cord, and from the spinal cord up to the brain. A specific circuit of brain nuclei connects the afferent pathway to the efferent pathway, which then sends descending neurons down the spinal cord to inhibit the perception of pain and to suppress nociceptive behavioral reflexes (Takeshige et al. 1992). The two brain circuits have been revealed by a series of experiments conducted by Takeshige (2001) of Japan and Han (2001) in China and the United States.

Afferent acupuncture pathway: This afferent pathway begins with stimulation of an acupuncture point in the skin that sends neural impulses to the spinal cord. These signals then ascend through the contralateral ventrolateral tract of the spinal cord to the reticular gigantocellular nucleus and the raphe magnus in the medulla. The signal next goes to the dorsal periaqueductal gray (PAG). Low-frequency (2 Hz) electrical stimulation of the muscles that underlie the acupoints LI 4 (hegu or hoku) and ST 36 (zusanli) produce behavioral analgesia. The intensity of electrical stimulation at an acupoint must be sufficient to cause muscle contraction, which thus leads to an increase in the latency for the animal to move its tail away from a hot light. Stimulation of other muscle regions does not produce this increase in tail-flick latency. Brain potentials can be evoked specifically in the periaqueductal central gray by stimulation of the muscles underlying the LI 4 and ST 36 acupoints, but not by stimulation of other muscles. These evoked potentials in the PAG were blocked by contralateral lesions of the anterolateral tract, by administration of the antiserum to met-enkephalin, by the opiate antagonist naloxone, but not by the administration of antagonists to dynorphin. Moreover, lesions of the PAG abolished acupuncture analgesia, indicating that the anatomical integrity of the PAG is necessary for producing pain relief from acupuncture stimulation. This afferent pathway projects from the PAG to the posterior hypothalamus, the lateral hypothalamus, and the centromedian nucleus of the thalamus. These neurons project through the hypothalamic preoptic area to the pituitary gland, from which beta-endorphins are secreted into the blood.

Efferent acupuncture pathway: The descending pain inhibitory system begins in a different area of the midbrain periaqueductal gray, which projects to dopaminergic neurons in the posterior hypothalamic area and then to the ventromedian nucleus of the hypothalamus. The path splits into a serotonergic system and a noradrenergic system that descends down the spinal cord. Brain potentials in the lateral PAG that are evoked by stimulation of non-acupoints are abolished by antagonists to the opiate neurotransmitter dynorphin; in contrast, they are not abolished by administration of antagonists to either met-enkephalin or leu-enkephalin. Dynorphin is thus believed to be the neurotransmitter of the spinal afferent pathway for non-acupuncture-produced analgesia. The afferent pathway for the efferent acupuncture system originates at non-acupoints and ends in the anterior part of the hypothalamic arcuate nucleus. Neurons from the ventral periaqueductal gray synapse in the raphe magnus, which then travels down the spinal cord to release the neurotransmitter serotonin on to spinal gating cells. An alternative efferent pathway travels from the reticular paragigantocellularis nucleus down to spinal gating cells. Spinal interneurons produce either presynaptic inhibition or postsynaptic inhibition on the neuron that transmits pain messages to the brain, thus blocking the pain message.

Opiates in acupuncture analgesia: The afferent acupuncture pathway produces a type of analgesia that is naloxone-reversible, disappears after hypophysectomy, persists long after stimulation of the acupoint is terminated and exhibits individual variation in effectiveness. In this first pathway, electrical brain potentials are evoked by stimulation of acupoints in the same areas that produce analgesia. In contrast, stimulation of brain areas associated with the efferent acupuncture pathway produces analgesia that is not naloxone-reversible, is not affected by hypophysectomy, and is produced only during the period of electrical stimulation. Since hypophysectomy only disrupts the activity of the first pathway, the second pathway can function without the presence of endorphin. Microinjection of either beta-endorphin or morphine into the hypothalamus produces analgesia in a dose-dependent manner, whereas microinjections of naloxone to the hypothalamic arcuate nucleus antagonizes acupuncture analgesia in a dose-dependent manner.

Neurotransmitters in acupuncture analgesia: Acupuncture's pain relieving effects can be abolished by concurrent lesions of the raphe nucleus and the reticular paragigantocellular nucleus. These are the known origins of the serotonergic and the noradrenergic descending pain-inhibitory systems.

Synaptic transmission from the arcuate hypothalamus to the ventromedian hypothalamus is facilitated by dopamine agonists and is blocked by dopamine antagonists. Neurons in the ventromedian hypothalamus which respond to acupoint stimulation also respond to microinjections of dopamine into that part of the brain. Conversely, neurons in the arcuate hypothalamus which do not respond to acupoint stimulation also do not respond to iontophoretically administered dopamine.

Adrenal activity and acupuncture analgesia: Acupuncture analgesia and stimulation-produced analgesia are both abolished after removal of the adrenal glands. Electroacupuncture produces significant increases of beta-endorphin and adrenocorticotrophic hormone (ACTH) released by the pituitary gland into the peripheral blood stream. There is a continual increase of both peptides for more than 80 minutes after termination of acupuncture stimulation, although this increase gradually diminishes thereafter. Electroacupuncture applied to a donor rat was able to induce behavioral analgesia in a crossed-circulated recipient rat. An increase of endorphins in the cerebrospinal fluid after electroacupuncture suggests that there may be a correlation between cerebral and peripheral beta-endorphin levels. Beta-endorphin and ACTH are co-released from the pituitary gland after an animal is stressed. Endorphins are most renowned for their pain relieving qualities, whereas ACTH and cortisol are more associated with neurobiological responses to stress. They can reach levels high enough to activate long periods of stimulation of the acupuncture analgesia pathways.

Electroacupuncture stimulation frequencies: The opiate peptides enkephalin and dynorphin, two subfractions of the larger polypeptide molecule beta-endorphin, are activated by different frequencies of electroacupuncture. Analgesia produced by low frequency (2 Hz) electroacupuncture was found by Han (2001) to be selectively attenuated by enkephalin antibodies, but not by dynorphin antibodies. In comparison, analgesia obtained by high frequency (100 Hz) electroacupuncture was reduced by antibodies to dynorphin, but not by antibodies to enkephalin. Han concluded that 2-Hz electroacupuncture activates enkephalin synapses, whereas 100-Hz electroacupuncture activates dynorphin synapses. Both forms of electroacupuncture produced more pronounced analgesia than needle insertion alone.

Brain imaging and acupuncture stimulation: The most direct evidence of the neurological effect of acupuncture stimulation on the human brain has come from Dr ZH Cho (Cho & Wong 1998; Wong & Cho 1999; Cho et al. 2001) at the University of California at Irvine. Recording functional magnetic resonance imaging (fMRI) of the human cerebral cortex, these investigators showed that needles inserted into a distal acupuncture point on the leg used for visual disorders could activate increased fMRI activity in the occipital lobe visual cortex, whereas needling a different acupuncture point on the leg that is stimulated to relieve auditory problems selectively activated the temporal lobe auditory cortex. If only tactile nerves were relevant to stimulation of acupuncture points in the skin, an increase in fMRI activity should have only been observed in the parietal lobe somatosensory cortex. Specificity of fMRI brain activity to auricular stimulation has been demonstrated by Alimi et al. (2002). Stimulation of the hand area of the auricle selectively altered fMRI activity in the hand region of the somatosensory cortex, whereas stimulation of a different area of the external ear did not produce this response. Similar correspondent changes were obtained in brain fMRI activity from stimulation of the elbow, knee, and foot regions of the auricle. Stimulation of specific areas of the auricle led to selective changes in the fMRI responses in the brain (Alimi 2000).

Thalamic circuits for acupuncture: Tsun-nin Lee (1977, 1994) has developed a thalamic neuron theory to account for reflex connections between acupuncture points and the brain. According to this theory, pathological changes in peripheral tissue lead to malfunctioning firing patterns in the corresponding brain pathways. The natural organization of the connections between peripheral nerves and the CNS is controlled by sites in the sensory thalamus that are arranged like a homunculus. The CNS institutes corrective measures intended to normalize the pathological neural circuits, but strong environmental stressors or intense emotions may cause the CNS circuitry to misfire. If the neurophysiological programs in the neural circuits are impaired, the peripheral disease becomes chronic. Pain and disease are thus attributed to learned maladaptive dysfunctional programming of these neural circuits. Stimulation of acupuncture points on the body or the ear can serve to induce a functional reorganization of these pathological brain pathways. The spatial arrangement of these neuronal chains within the thalamic homunculus is said to

account for the arrangement of acupuncture meridians in the periphery. The invisible meridians which purportedly run over the surface of the body may actually be due to nerve pathways projected onto neuronal chains in the thalamus. The auricular acupuncture system is more noticeably arranged in a somatotopic pattern on the skin surface of the external ear (Chen 1993). Nogier (1983) also proposed that for a chronic illness to maintain itself, the disorder must be accompanied by altered neurological reflexes that transmit pathological messages to higher nervous centers. Until this dysfunctional neural circuit is corrected, somatic reflexes controlled by the brain will remain dysfunctional. Stimulation of corresponding somatotopic points on the ear sends messages to the brain which facilitate the correction of this pathological brain activity.

Somatotopic brain map: Research by Penfield & Rasmussen (1950) demonstrated that when the brain of a human neurosurgery patient was electrically excited, stimulation of specific cortical areas evoked verbal reports of sensations felt in specific parts of the patient's body. Stimulation of the most superior and medial region of the somatosensory cortex elicited sensations from the feet; stimulation of the more inferior and peripheral region of the cortex produced the perception of tingling in the head. The rest of the body was represented in an anatomically logical pattern. If the right cortex was stimulated, the patient reported a sensation on the left side of the body, whereas if the left cortex was stimulated, the patient felt a sensation on the right side. Parallel research by Mountcastle & Henneman (1952) and Woolsey (1958) showed that a similar pattern existed for animals. When electrical stimulation was applied to the foot of an animal, neurons in one region of the contralateral somatosensory cortex began firing, whereas when the leg was stimulated, a different but nearby region of the brain was activated. A systematic representation of the body has been found for neurons in the cerebral cortex, in the subcortical thalamus, and in the reticular formation of the brainstem (see Figure 2.1). This brain map has the same overall pattern as the map on the ear, representing the body in an inverted orientation.

Cerebral laterality: The higher brain centers are split into a left cerebral cortex and a right cerebral cortex, each side with a frontal lobe, a parietal lobe, a temporal lobe and an occipital lobe. A broad band of neurons called the corpus callosum bridges the chasm between these two sides of the brain. The left side of the higher brain receives signals from and sends messages out to control the right side of the body, whereas the right side of the higher brain receives signals from and sends messages out to the left side of the body. Besides controlling the ability to write with the right hand, the left neocortex dominates our ability to understand language, to verbally articulate words, to solve mathematical problems, to analyze details and to report on our states of consciousness. Even left handed individuals tend to exhibit dominance for language on the left side of the brain. The right side of the cerebral cortex regulates a different set of psychological functions. Besides controlling the left hand, the right side of brain is superior to the left side of the brain in recognizing facial features, in perceiving inflections and intonations, and in understanding the rhythms that distinguish different songs. Our recognition of negative emotional feelings is more highly processed by the relationship-oriented right brain than by the more logically-oriented left brain. Box 2.2 presents the different qualities of the left and right cerebral hemispheres in a Taoist dualistic perspective: the left side of the brain is more yang-like, whereas the right side of the brain is more yin-like.

Both mathematics and language involve a sequential linear series of letters or numbers that must be combined in a logical manner in order to be rationally understood. The equation $(5 + 4) \times 3 = 27$ has a different result if the numbers are rearranged to $(3 + 5) \times 4 = 32$. The phrase 'the rays of sunlight rise over the mountains in the east' can not be logically comprehended by the left cerebral cortex when the words are recombined to read 'the east in the rays rise of mountains over the sunlight.' However, the right cerebral cortex is readily able to recognize a picture of sunlight rising over some mountains, whether one first focuses on the mountains and then looks up at the sun, or one first focuses on the sun and then lowers one's gaze to the mountains. What is important to right brain perception is the overall relationship of the parts to the whole. The more conscious left side of the brain tends to focus on rationally solving problems, whereas the more emotionally sensitive right side of the brain allows for empathetic understanding of unconsciously motivated feelings. Although information processed by the left hemisphere is necessary to remember someone's name, the right brain is essential to recall his or her face. Dominance for language is found in 95% of the population, with only a few left handers exhibiting language dominance in the right cerebral cortex. It should be noted that both the left side and the right side of the brain are actively used by everyone, the two hemispheres constantly cross-referencing each other. However, there can be certain learning disorders where the communication between the left cerebral cortex

Box 2.2 Taoist dualities in the left and right cerebral hemispheres

Yang left brain activity

Logical
Rational
Thinking
Name recognition
Mathematical calculations
Analyzes details
Word recognition
Verbal meaning
Sequential
Linear
Literal
Abstract concepts
Judgmental
Critical
Dominating
Language

Yin right brain activity

Intuitive
Emotional
Feeling
Facial recognition
Musical rhythms
Global impressions
Spatial relationships
Intonations and inflections
Simultaneous
Circular
Symbolic
Metaphorical images
Accepting
Compassionate
Supportive
Art

and the right cerebral cortex creates confusion rather than order. An example would be dyslexia, the reversal of numbers, letters, or words. This condition is 10 times more likely to be found in someone who is left handed than in someone who is right handed. In auricular medicine, problems of left hemisphere and right hemisphere interactions are referred to as laterality disorders.

Contralateral cortical criss-crossing: It sometimes confuses beginning practitioners of auriculotherapy that different body regions are represented contralaterally in the brain, but are represented ipsilaterally on the ear. The explanation is that nerves originating from ear reflex points are centrally projected to the contralateral side of the brain, which subsequently sends descending projections back to the ipsilateral corresponding organ. Signals from the left ear cross to the right side of the brain. They then cross back from the right side of the brain to the left side of the body. Conversely, a point on the right ear projects to the left brain, which then processes the information and activates homeostatic regulating mechanisms that lead to corrective neural impulses being sent to the right side of the physical body. This contralateral criss-crossing pattern is represented in Figure 2.23.

Brain computer model: A commonly cited analogy for understanding the brain is the example of modern computers. If the brain is compared to a computer, then the ear can be viewed as a computer terminal, having peripheral access to the body's central microprocessor unit. This image is represented in Figure 2.24. Needle or electrical stimulation of ear acupoints would be like typing a message on a computer keyboard, whereas the computer screen would be like the appearance of different diagnostic signs on the auricle. Losing or damaging the ear would not necessarily be destructive to the brain computer, any more than losing a keyboard would necessarily affect a physical computer. Having a peripheral terminal on the external ear allows more ready access to the central brain computer, thus facilitating cerebral reorganization of pathological reflex patterns.

Somatic control of muscle tension: There are two main divisions of the peripheral nervous system, the somatic nervous system and the autonomic nervous system. Myofascial pain is typically produced by the activation of somatic nerves exciting the contraction of muscle fibers to form muscle spasms. These fixated muscle contractions will not release, no matter what conscious efforts are exerted. This myofascial tension is the most common type of chronic pain, including back pain, headaches, neck and shoulder pain, and joint aches. A muscle will not initiate a movement or maintain any action by itself. The muscle must first be stimulated by a motor neuron to contract. If one has rigidity and stiffness in a limb, neural reflexes are required to maintain that postural pattern. The question becomes what factor would cause the brain to tell spinal motor

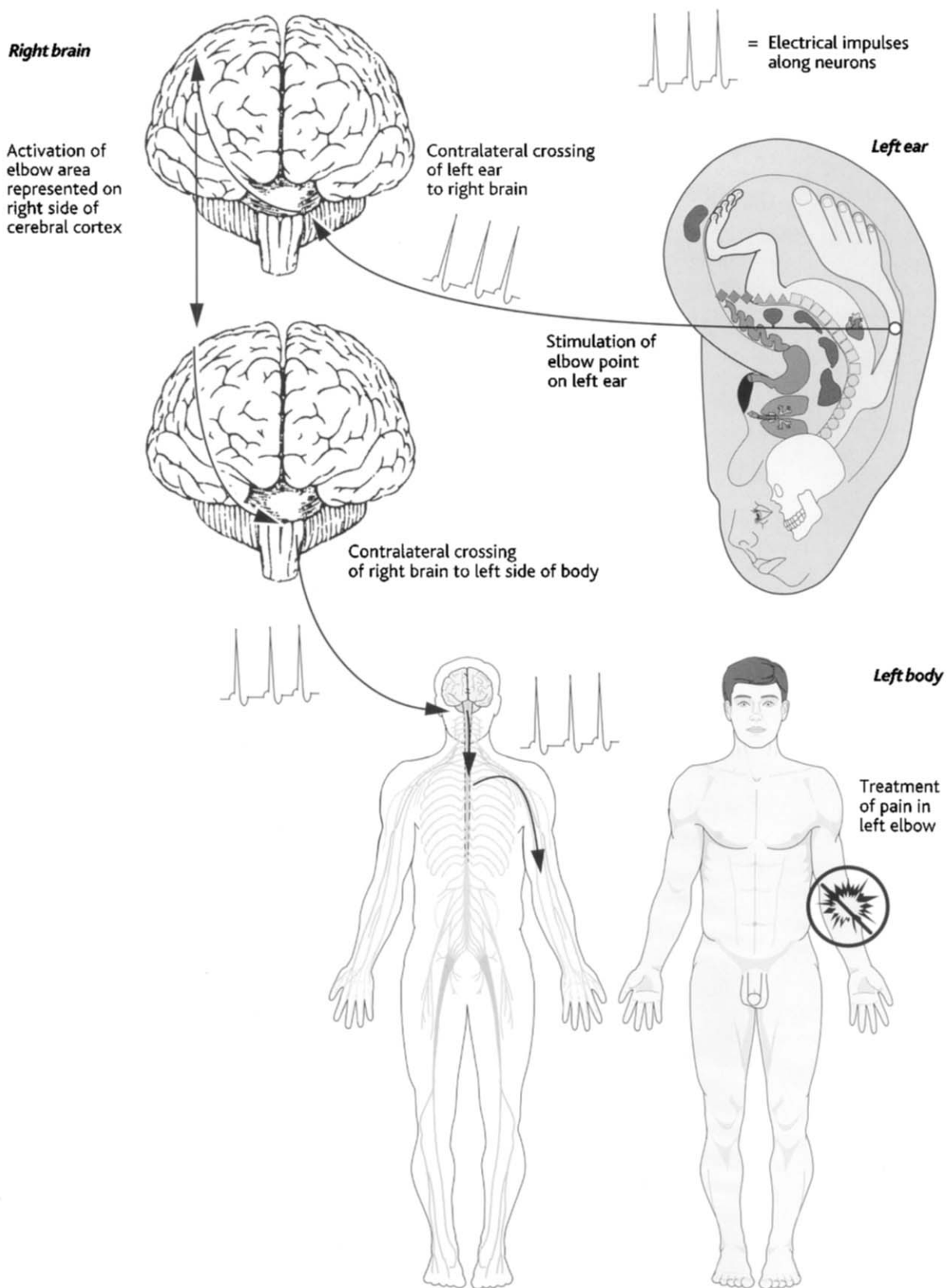


Figure 2.23 Contralateral cortical connections that cross from the left external ear to the right brain and from the right brain back to the left side of the body. (From Life ART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

A Auricular diagnosis

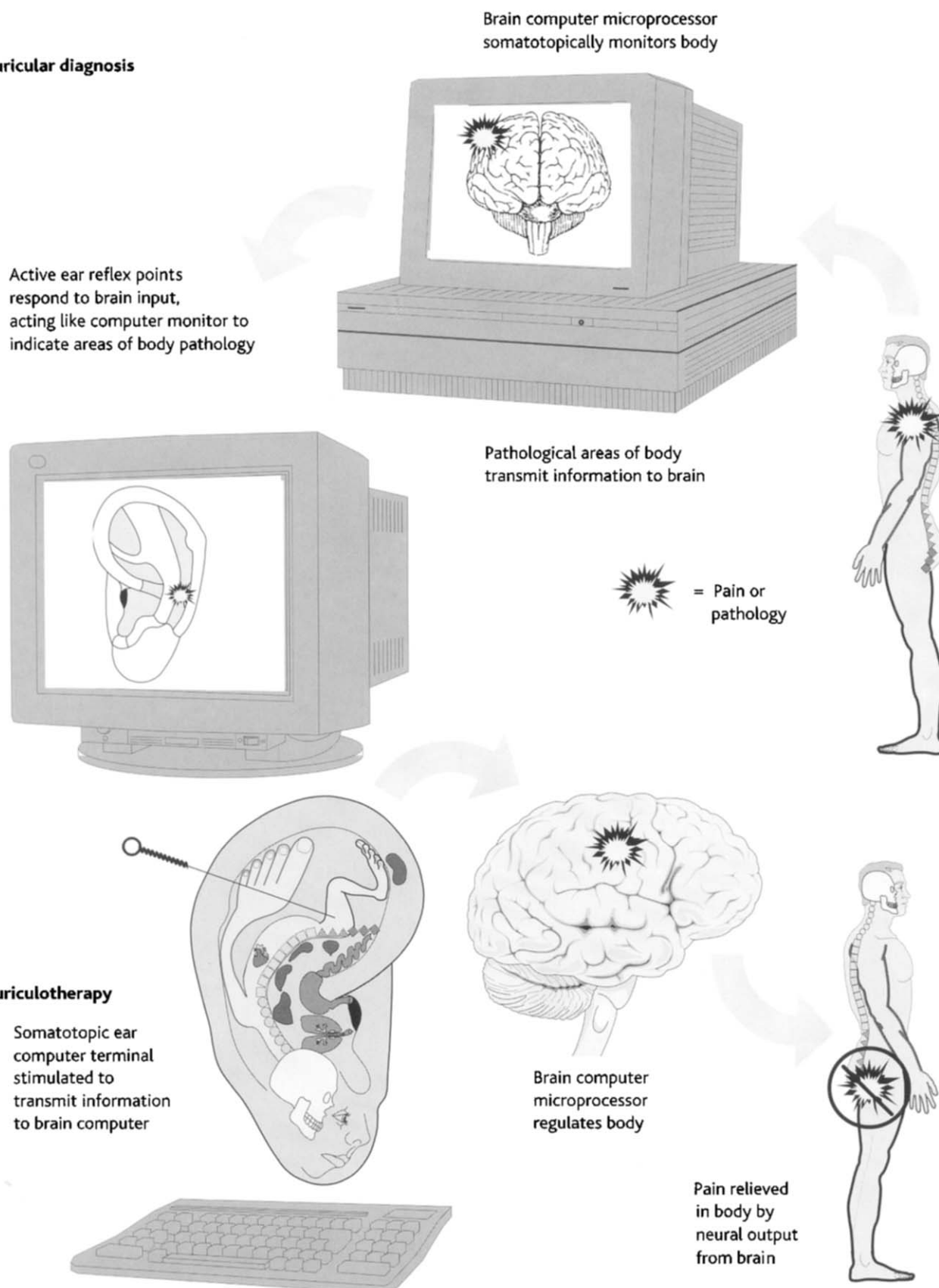


Figure 2.24 Brain computer model indicating peripheral connections from the body to the microchip circuitry of the brain, represented like a computer monitor (A). Stimulation of the auricle is like sending messages on a computer keyboard (B) to the brain, which subsequently regulates the body.

neurons to sustain muscle contraction in a pathological state. The thalamic neuron theory of Lee and the writings of Nogier suggest that such chronic pain is due to a learned pathological reflex circuit established in the brain. It is that maladaptive brain circuit which unconsciously maintains chronic pain. The pattern of neural firing in these pathological brain circuits descends the spinal cord and activates motor neurons to contract the muscles in a manner that is designed to be protective against pain, but actually tends to exacerbate pain. Auriculotherapy can promote homeostatic balancing of that pathological brain–somatic nerve circuit.

Sympathetic control of blood flow: Blood circulation and control of other visceral organs is regulated by the autonomic nervous system. Sympathetic arousal leads to peripheral vasoconstriction and a reduction of blood flow to the area. The localized skin surface changes sometimes seen with auricular diagnosis, such as white flaky skin, can be attributed to microvasoconstriction (Ionescu-Tirgoviste et al. 1991). Auriculotherapy stimulation produces peripheral vasodilation, which patients often feel as a sensation of heat in the part of the body which corresponds to the points being treated. This treatment can therefore be used for Raynaud's disease, arthritis, and muscle cramps due to restricted blood circulation.

Sympathetic control of sweat glands: Another system controlled by the autonomic nervous system is the sympathetic control of sweat glands. Sweat is released more when it is hot outside, or in response to anxiety or stress. An electrodermal discharge from sweat glands can be recorded from skin surface electrodes. Selective changes in the electrical activity on the auricular skin surface can be recorded by an electrical point finder. Such devices indicate localized increases in skin conductance that are produced by the sympathetic nervous system which innervates the sweat glands (Hsieh 1998; Young & McCarthy 1998). Paradoxically, histological investigations of the skin overlying the auricle do not reveal the presence of sweat glands, indicating that some other process must account for spatial differences in skin resistance at reactive ear reflex points. Stimulation of reactive auricular points leads to a reduction in skin conductance recorded in the palm, thus indicating reduced sympathetic arousal. Representation of the yang aspects of the sympathetic nervous system and the yin aspects of the parasympathetic nervous system are shown in Figure 2.25 and Box 2.3.

Research on acupoint electrodermal activity: In 1980, Oleson and colleagues conducted the first double blind assessment to scientifically validate the somatotopic pattern of auricular reflex points (Oleson et al 1980b). Forty patients with specific musculoskeletal pain problems were first evaluated by a doctor or nurse to determine the exact body location of their physical pain. A second medical doctor who had extensive training in auricular acupuncture procedures then examined each patient's ear. This second doctor had no prior knowledge of the subject's previously established medical diagnosis and was not allowed to interact verbally with the patient. There was a positive correspondence between auricular points identified as reactive and the parts of the body where there was musculoskeletal pain. Reactivity was defined as auricular points that were tender to palpation and exhibited at least 50 microamps (μA) of electrical conductivity. Non-reactive ear points corresponded to parts of the body from which there was no reported pain. The statistically significant overall correct detection rate was 75.2%. When the pain was located on only one side of the body, electrical conductivity was significantly greater at the somatotopic ear point on the ipsilateral ear than at the corresponding area of the contralateral ear. Another double blind evaluation of auricular diagnosis did not occur until a decade later. Ear reflex points related to heart disorders were examined by Saku et al. (1993) in Japan. Reactive electropoermeable points on the ear were defined as auricular skin areas that had conductance of electrical current greater than 50 microamps, indicating relatively low skin resistance. There was a significantly higher frequency of reactive ear points at the Chinese Heart points in the inferior concha (84%) and on the tragus (59%) for patients with myocardial infarctions and angina pain than for a control group of healthy subjects (11%). There was no difference between the coronary heart disease group and the control group regarding the electrical reactivity of auricular points that did not represent the heart. The frequency of electropoermeable auricular points for the kidney (5%), stomach (6%), liver (10%), elbow (11%) and eye (3%) was the same for coronary patients as for individuals without coronary problems, highlighting the specificity of this phenomenon.

Observations that acupuncture points exhibited lower levels of skin resistance than surrounding skin surface areas were first reported in the 1950s by Nakatani in Japan and by Niboyet in France (Oleson & Kroening 1983c). In the 1970s, Matsumoto showed that 80% of acupuncture points

Taoist balance of autonomic nervous system

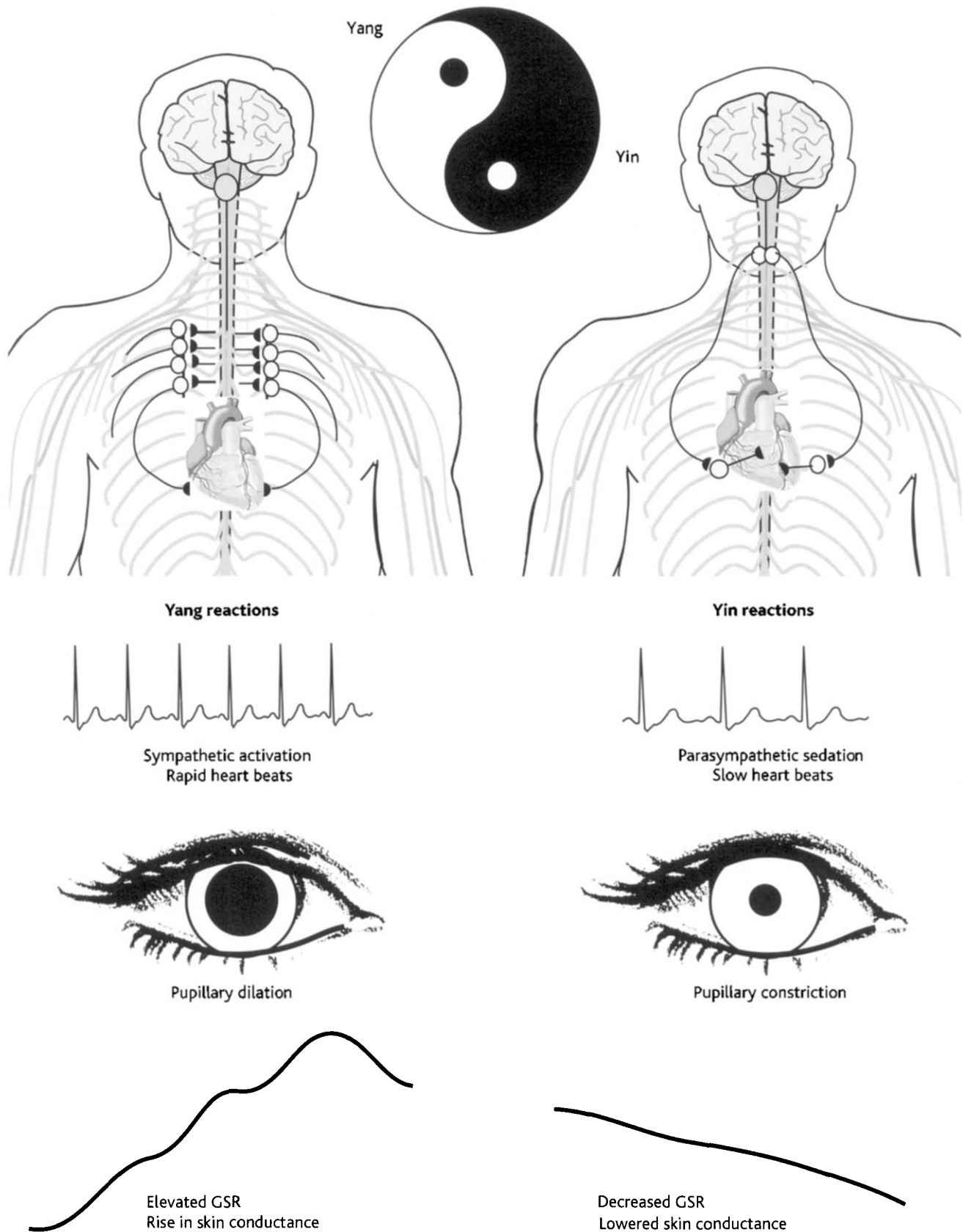


Figure 2.25 Physiological activity in the autonomic nervous system is compared to the complementary qualities of yang and yin. Yang-like sympathetic arousal increases heart rate, pupillary dilation, and skin conductance, whereas parasympathetic sedation has the opposite effects. (From Life ART®, Super Anatomy, © Lippincott Williams & Wilkins.)

Box 2.3 Taoist dualities of the sympathetic and parasympathetic nerves

Yang sympathetic nervous system	Yin parasympathetic nervous system
General arousal	Selective sedation
Utilization of energy	Conservation of energy
Rapid shallow breathing	Slow deep breathing
Rapid heart rate	Slow heart rate
Increased blood pressure	Lowered blood pressure
Peripheral vasoconstriction	Peripheral vasodilation
Cold hands	Warm hands
Sweaty hands	Dry hands
Increased skin conductance	Reduced skin conductance
Pupillary dilation	Pupillary constriction
Dry mouth	Increased salivation
Impaired digestion	Improved digestion
Diarrhea	Constipation
Contributes to muscle tension	Facilitates muscle relaxation

could be detected as low resistance points. The electrical resistance of acupuncture points was found to range from 100 to 900 kilohms, whereas the electrical resistance of non-acupuncture points ranged from 1100 to 11 700 kilohms. Reichmanis et al. (1975, 1976) further showed that meridian acupuncture points exhibit even lower electrical resistance when there is pathology in the organ they represent. For instance, electrodermal resistance on the lung meridian is lower when one has a respiratory disorder, whereas skin resistance on the liver meridian is lower when one has a liver disorder. Those acupuncture points that were ipsilateral to the site of body discomfort exhibited a lower electrical resistance than the corresponding meridian point on the contralateral side of the body. This work corroborated earlier findings (Bergsman & Hart 1973; Hyvarinen & Karlsson 1977).

Subsequent research on the differential electrodermal activity of acupoints has continued to verify these earlier studies. Xianglong et al. (1992) of China examined 68 healthy adults for computerized plotting of low skin resistance points. A silver electrode was continuously moved over a whole area of body surface, while a reference electrode was fastened to the hand. Starting from the distal ends of the four limbs, investigators moved the electrode along the known meridians. The resistance of low skin impedance points (LSIP) was approximately 50 kilohms, whereas the impedance at non-LSIP was typically 500 kilohms. A total of 83.3% of LSIPs were located within 3 mm of a channel. In only a few cases could individual LSIPs be found in non-channel areas. The topography of low skin resistance points (LSRP) in rats was examined by Chiou et al. (1998). Specific LSRP loci were found to be distributed symmetrically and bilaterally over the shaved skin of the animal's ventral, dorsal, and lateral surface. The arrangement of these points corresponded to the acupuncture meridians found in humans. The LSRPs were hypothesized to represent zones of autonomic concentration, the higher electrical conductivity due to higher neural and vascular elements beneath the points. The LSRPs gradually disappeared within 30 minutes after the animal's death.

Skin and muscle tissue samples were obtained by Chan et al. (1998) from four anesthetized dogs. Acupuncture points, defined by regions of low skin resistance, were compared to control points, which exhibited higher electrodermal resistance. The points were marked for later histological examination. Concentration of substance P was significantly higher at skin acupuncture points (3.33 ng/g) than at control skin points (2.63 ng/g) that did not exhibit low skin resistance. Concentration of substance P was also significantly higher in skin tissue samples (3.33 ng/g) than in the deeper, muscle tissue samples (1.8 ng/g). Substance P is known to be a spinal neurotransmitter found in nociceptive afferent C-fibers (Kashiba & Ueda 1991). It plays a role in pain transmission, stimulates contractility of autonomic smooth muscle, induces subcutaneous liberation of histamine, causes peripheral vasodilation, and leads to hypersensitivity of sensory neurons. This

neurotransmitter seems to activate a somato-autonomic reflex that could account for the clinical observations of specific acupuncture points that are both electrically active and tender to palpation.

Experimentally induced changes in auricular reflex points in rats were examined by Kawakita et al. (1991). The submucosal tissue of the stomach of anesthetized rats was exposed, then acetic acid or saline was injected into the stomach tissue. Skin impedance of the auricular skin was measured by constant voltage, square wave pulses. A silver metal ball, the search electrode, was moved over the surface of the rat's ear and a needle was inserted into subcutaneous tissue to serve as the reference electrode. Injection of acetic acid led to the gradual development of lowered skin resistance points on central regions of the rats' ears, auricular areas which correspond to the gastrointestinal region of human ears. In normal rats and in experimental rats before the surgical operation, low impedance points were rarely detected on the auricular skin. After experimentally induced peritonitis, there was a significant increase in low impedance points (0–100 kilohms) and moderate impedance points (100–500 kilohms), but a decrease in high impedance points (greater than 500 kilohms). Histological investigation could not prove the existence of sweat glands in the rat auricular skin. The authors suggested that the low impedance points are in fact related to sympathetic control of blood vessels.

Brain activity related to auricular stimulation: The areas of the brain which have been classically related to weight control include two regions of the hypothalamus. The ventromedial hypothalamus (VMH) has been referred to as a satiety center. When the VMH is lesioned, animals fail to restrict their food intake. In contrast, the lateral hypothalamus (LH) is referred to as a feeding center, since stimulation of the LH induces animals to start eating food. Asamoto & Takeshige (1992) studied selective activation of the hypothalamic satiety center by auricular acupuncture in rats. Electrical stimulation of inner regions of the rat ear, which correspond to auricular representation of the gastrointestinal tract, produced evoked potentials in the VMH satiety center, but not in the lateral hypothalamic feeding center. Stimulation of more peripheral regions of the ear did not activate hypothalamic evoked potentials, indicating the selectivity of auricular acupoint stimulation. Only the somatotopic auricular areas near the region representing the stomach caused these specific brain responses. The same auricular acupuncture sites that led to hypothalamic activity associated with satiety led to behavioral changes in food intake. Auricular acupuncture had no effect on weight in a different set of rats who had received bilateral lesions of VMH. These results provide a compelling connection between auricular acupuncture and a part of the brain associated with neurophysiological regulation of feeding behavior.

In support of this evoked potential research, Shiraishi et al. (1995) recorded single unit neuronal discharge rates in the ventromedial (VMH) and lateral hypothalamus (LH) of rats. Neurons were recorded in the hypothalamus following electrical stimulation of low resistance regions of the inferior concha Stomach point. Auricular stimulation tended to facilitate neuronal discharges in the VMH and inhibit neural responses in the LH. Out of 162 neurons recorded in the VMH, 44.4% exhibited increased neuronal discharge rates in response to auricular stimulations, 3.7% of VMH neurons exhibited inhibition, and 51.9% showed no change. Of 224 neurons recorded in the LH feeding center of 21 rats, 22.8% were inhibited by auricular stimulation, 7.1% were excited, and 70.1% were unaffected. When the analysis was limited to 12 rats classified as behaviorally responding to auricular acupuncture stimulation, 49.5% of LH units were inhibited, 15.5% were excited, and 35% were not affected by auricular stimulation. A different set of rats was given lesions of the ventromedial hypothalamus, which led to significant weight gain. In these hypothalamic obese rats, 53.2% of 111 LH neurons were inhibited by auricular stimulation, 1.8% showed increased activity, and 45% were unchanged. These neurophysiological findings suggest that auricular acupuncture can selectively alter hypothalamic brain activity and is more likely to produce sensations of VMH satiety than reduction of LH appetite.

Fedoseeva et al. (1990) applied electrostimulation to the auricular lobe of rabbits, an area corresponding to the jaw and teeth in humans. They measured behavioral reflexes and cortical somatosensory evoked potentials in response to tooth pulp stimulation. Auricular electroacupuncture produced a significant decrease in both behavioral reflexes and in cortical evoked potentials to tooth pulp stimulation. The suppression of behavioral and neurophysiological effects by auricular electroacupuncture at 15 Hz was abolished by intravenous injection of the opiate antagonist naloxone, suggesting endorphinergic mechanisms.

Naloxone did not diminish the analgesic effect of 100 Hz stimulation frequencies. Conversely, injection of saralasin, an antagonist for angiotensin II, blocked the analgesic effect of 100 Hz auricular acupuncture, but not 15 Hz stimulation. The amplitude of cortical potentials evoked by electrical stimulation of the hind limb was not attenuated by stimulation of the auricular area for the trigeminal nerve.

2.6 Endorphin release by auricular acupuncture

The natural pain relieving biochemicals known as endorphins are endogenous morphine substances which are found in the pituitary gland and parts of the central nervous system (CNS). Enkephalin is a subfraction of endorphin, a neurotransmitter occurring in the brain at the same sites where opiate receptors have been found. Both body acupuncture and ear acupuncture have been found to raise blood serum and cerebrospinal fluid (CSF) levels of endorphins and enkephalins. As stated in the previous section, naloxone is the opiate antagonist which blocks morphine, blocks endorphins, and also blocks the analgesia produced by the stimulation of auricular reflex points and body acupuncture points. The discovery by Wen & Cheung (1973) that auricular acupuncture facilitates withdrawal from narcotic drugs has led to a plethora of studies demonstrating the clinical use of this technique for substance abuse (Smith 1988, Dale 1993). Auricular electroacupuncture has also been shown to raise blood serum and cerebrospinal fluid (CSF) levels of endorphins and enkephalins (Sjolund & Eriksson 1976; Sjolund et al. 1977; Wen et al. 1978, 1979; Clement-Jones et al. 1979) and beta-endorphin levels in mice withdrawn from morphine (Ho et al. 1978; Ng et al. 1975, 1981). Pomeranz (2001) has reviewed the extensive research on the endorphinergic basis of acupuncture analgesia and has substantiated 17 arguments to justify the conclusion that endorphins have a scientifically verifiable role in the pain relieving effects of acupuncture.

Mayer et al. (1977) were the first investigators to provide scientific evidence that there is a neurophysiological and neurochemical basis for acupuncture in human subjects. Stimulation of the body acupuncture point LI 4 produced a significant increase in dental pain threshold. Acupuncture treatment raised dental pain threshold by 27.1%, whereas an untreated control group showed only a 6.9% increase in dental pain threshold. A total of 20 out of 35 acupuncture subjects showed increased pain thresholds greater than 20%, while only 5 out of 40 control subjects exhibited a 20% elevation of pain threshold. Statistically significant reversal of this elevated pain threshold was achieved by intravenous administration of 0.8 mg of naloxone, reducing the subject's pain threshold to the same level as that of a control group given saline. A double blind study by Ernst & Lee (1987) similarly found that there was a 27% increase in pain threshold after 30 minutes of electroacupuncture at LI 4. The analgesic effect induced by acupuncture in that study was also blocked by the intravenous injection of 0.8 mg of naloxone.

Contradictory findings with regard to the naloxone reversibility of acupuncture analgesia have been suggested by Chapman et al. (1983). Differences in experimental design could account for some of the discrepancies, but a more probable explanation for the contrasting findings may be due to the low sample size employed in Chapman et al.'s research. Their study examined only 7 subjects in the experimental group given naloxone and 7 in the control group given saline. While all 14 subjects did exhibit significant analgesia with acupuncture stimulation at LI 4, they failed to obtain a statistically significant reversal in pain threshold by 1.2 mg of intravenous naloxone. The mean decrease in the electrical current levels needed to evoke pain was 4.8 μ A after naloxone administration, but only 0.4 μ A for the control group administered saline. While the mean change in pain threshold difference between groups was small, it might have reached statistical significance with a larger sample size.

The aforementioned studies all obtained acupuncture analgesia with body acupoint LI 4. Simmons & Oleson (1993) examined naloxone reversibility of auricular acupuncture analgesia to dental pain induced in human subjects. Utilizing a Stim Flex 400 transcutaneous electrical stimulation unit, 40 subjects were randomly assigned to be treated at either 8 auricular points specific for dental pain or at 8 placebo points, ear regions which have not been related to dental pain. All subjects were assessed for tooth pain threshold by a dental pulp tester at baseline, after auriculotherapy, and then again after double blind injection of 0.8 mg of naloxone or placebo saline. Four treatment groups consisted of true auricular electrical stimulation (AES) followed by an injection of naloxone, true AES followed by an injection of saline, placebo stimulation of the auricle followed

by an injection of naloxone, or placebo stimulation of the auricle followed by an injection of saline. Dental pain thresholds were significantly increased by AES conducted at appropriate auricular points for dental pain, but were not altered by sham stimulation at inappropriate auricular points. Naloxone produced a slight reduction in dental pain threshold in the subjects given true AES, whereas the true AES subjects then given saline showed a further increase in pain threshold. The minimal changes in dental pain threshold shown by the sham auriculotherapy group were not significantly affected by saline or by naloxone. Research by Oliveri et al. (1986) and Krause et al. (1987) has also demonstrated statistically significant elevation of pain threshold by transcutaneous auricular stimulation, while Kitade & Hyodo (1979) and Lin (1984) found increased pain relief by needles inserted into the auricle. These earlier investigations of auricular analgesia did not test for the effects of naloxone.

Direct evidence of the endorphinergic basis of auriculotherapy was first provided by Sjolund & Eriksson (1976) and by Abbate et al. (1980). Assaying plasma beta-endorphin concentrations in subjects undergoing surgery, they observed a significant increase in beta-endorphins after acupuncture stimulation was combined with nitrous oxide inhalation, whereas control subjects given nitrous oxide without acupuncture showed no such elevation of endorphins. Pert et al. (1981) showed that 7-Hz electrical stimulation through needles inserted into the concha of the rat produced an elevation of hot plate threshold, an analgesic effect that was reversed by naloxone. The behavioral analgesia to auricular electroacupuncture was accompanied by a 60% increase in radioreceptor activity in cerebrospinal fluid levels of endorphins. This auricular-induced elevation in endorphin level was significantly greater than was found in a control group of rats. Concomitant with these CSF changes, auricular electroacupuncture depleted beta-endorphin radioreceptor activity in the ventromedial hypothalamus and the medial thalamus, but not the periaqueductal gray. Supportive findings in human back pain patients was obtained by Clement-Jones et al. (1980). Low frequency electrical stimulation of the concha led to relief of pain within 20 minutes of the onset of auricular electroacupuncture and an accompanying elevation of radioassays for CSF beta-endorphin activity in all 10 subjects. Abbate et al. (1980) examined endorphin levels in 6 patients undergoing thoracic surgery with 50% nitrous oxide and 50 Hz auricular electroacupuncture. They were compared to 6 control patients who underwent surgery with 70% nitrous oxide but no acupuncture. The auricular acupuncture patients needed less nitrous oxide than the controls and acupuncture led to a significant increase in beta-endorphin immunoreactivity.

Extending the pioneering work of Wen & Cheung (1973) on the benefits of auricular acupuncture for opiate addicts, Kroening & Oleson (1985) examined auricular electroacupuncture in chronic pain patients. Fourteen subjects were first switched from their original analgesic medication to an equivalent dose of oral methadone, typically 80 mg per day. An electrodermal point finder was used to determine areas of low skin resistance for the Lung point and the Shen Men point. Needles were bilaterally inserted into these two ear points and electrical stimulation was initiated between two pairs of needles. After 45 minutes of electroacupuncture, the patients were given periodic injections of small doses of naloxone (0.04 mg every 15 minutes). All 14 patients were withdrawn from methadone within 2 to 7 days, for a mean of 4.5 days. Only a few patients reported minimal side effects, such as mild nausea or slight agitation. It was proposed that occupation of opiate receptor sites by narcotic drugs leads to the inhibition of the activity of natural endorphins, whereas auricular acupuncture facilitates withdrawal from these drugs by activating the release of previously suppressed endorphins.

Other biochemical changes also accompany auricular acupuncture. Debrecini (1991) examined changes in plasma ACTH and growth hormone (GH) levels after 20-Hz electrical stimulation through needles inserted into the Adrenal point on the tragus of the ears of 20 healthy females. While GH secretions increased after electroacupuncture, ACTH levels remained the same. This research supported earlier work by Wen et al. (1978) that auricular acupuncture led to a decrease in the ACTH and cortisol levels associated with stress. Jaung-Geng et al. (1995) evaluated lactic acid levels from pressure applied to ear vaccaria seeds positioned over the Liver, Lung, San Jiao, Endocrine, and Thalamus (subcortex) points. Using a within-subjects design, pressure applied to ear points produced significantly lower levels of lactic acid obtained after physical exercise on a treadmill test than when ear seeds were placed over the same auricular points but not pressed. Stimulation of auricular pressure points reduced the toxic build-up of lactic acid to a greater

Box 2.4 Taoist dualities of hormones and neurotransmitters	
Yang arousing neurochemicals	Yin sedating or nurturing neurochemicals
Adrenalin	Endorphin
Cortisol	Melatonin
Thyroxin	Parathormone
Testosterone	Estrogen and progesterone
Glutamate	GABA
Norepinephrine	Acetylcholine
Dopamine	Serotonin

degree than the control condition. The reduced lactic acid accumulation was attributed to improved peripheral blood circulation.

As indicated in Box 2.4 and Figure 2.25, the dualistic principles of Taoism can be used to distinguish the arousing and sedating qualities of different hormones and different neurotransmitters. The pituitary and target glands that release adrenalin, cortisol, thyroxin and testosterone all induce general arousal and energy activation. In contrast, the hormones endorphin, growth hormone, parathormone, estrogen and progesterone all promote a relaxation response. The neurotransmitter glutamate produces excitatory postsynaptic potentials (EPSPs) throughout the brain, while the neurotransmitter gamma-aminobutyric acid (GABA) produces inhibitory postsynaptic potentials (IPSPs) throughout the brain. Norepinephrine is released by postganglionic fibers in the adrenergic sympathetic nervous system to activate general arousal, while acetylcholine is released by postganglionic fibers in the cholinergic parasympathetic nervous system to facilitate physiological relaxation. In the brain, dopamine tends to increase motor excitation and intensely pleasurable feelings, while serotonin facilitates calm, relaxing feelings that facilitate sleep.

2.7 Embryological perspective of auriculotherapy

As part of his examination of the neurophysiological basis of auriculotherapy, Paul Nogier (1983) proposed that nervous system innervations of the external ear correspond to the three primary types of tissue found in the developing embryo. Nogier theorized that the distribution of the three cranial nerves which supply different auricular regions is related to three embryological functions, the ectoderm, mesoderm, and endoderm. Leib (1999) has referred to Nogier's embryological perspective as three functional layers, each layer representing a different homeostatic system in the organism. Most health disorders are related to disturbances in all three functional layers.

Relationship of auricular regions to nerve pathways: There are actually four principal nerves, which innervate the human ear. Figure 2.26 shows the distribution of different nerves to different auricular regions. Since the entire auricle is covered with a thin skin layer containing extensively branching nerves, all anatomical areas of the external ear are in part related to ectodermal tissue.

Somatic trigeminal nerve: The fifth cranial nerve is part of the somatic nervous system pathway that processes sensations from the face and controls some facial movements. The mandibular division of the trigeminal nerve is distributed across the antihelix and the surrounding auricular areas of the antitragus, scaphoid fossa, triangular fossa and helix. This auricular region represents somatosensory nervous tissue associated with mesodermal organs.

Somatic facial nerve: The seventh cranial nerve is an exclusively motor division of the somatic nervous system, controlling most facial movements. It predominately supplies the posterior regions of the auricle that represent motor nerve control of mesodermal tissue.

Autonomic vagus nerve: The tenth cranial nerve is a branch of the parasympathetic division of the autonomic nervous system. It processes sensations from visceral organs in the head, the thorax, and the abdomen and it controls the smooth muscle activity of the internal viscera. Vagus nerve fibers spread throughout the concha of the ear and represent neurons associated with endodermal tissue.

Nerve Connections to the Auricle

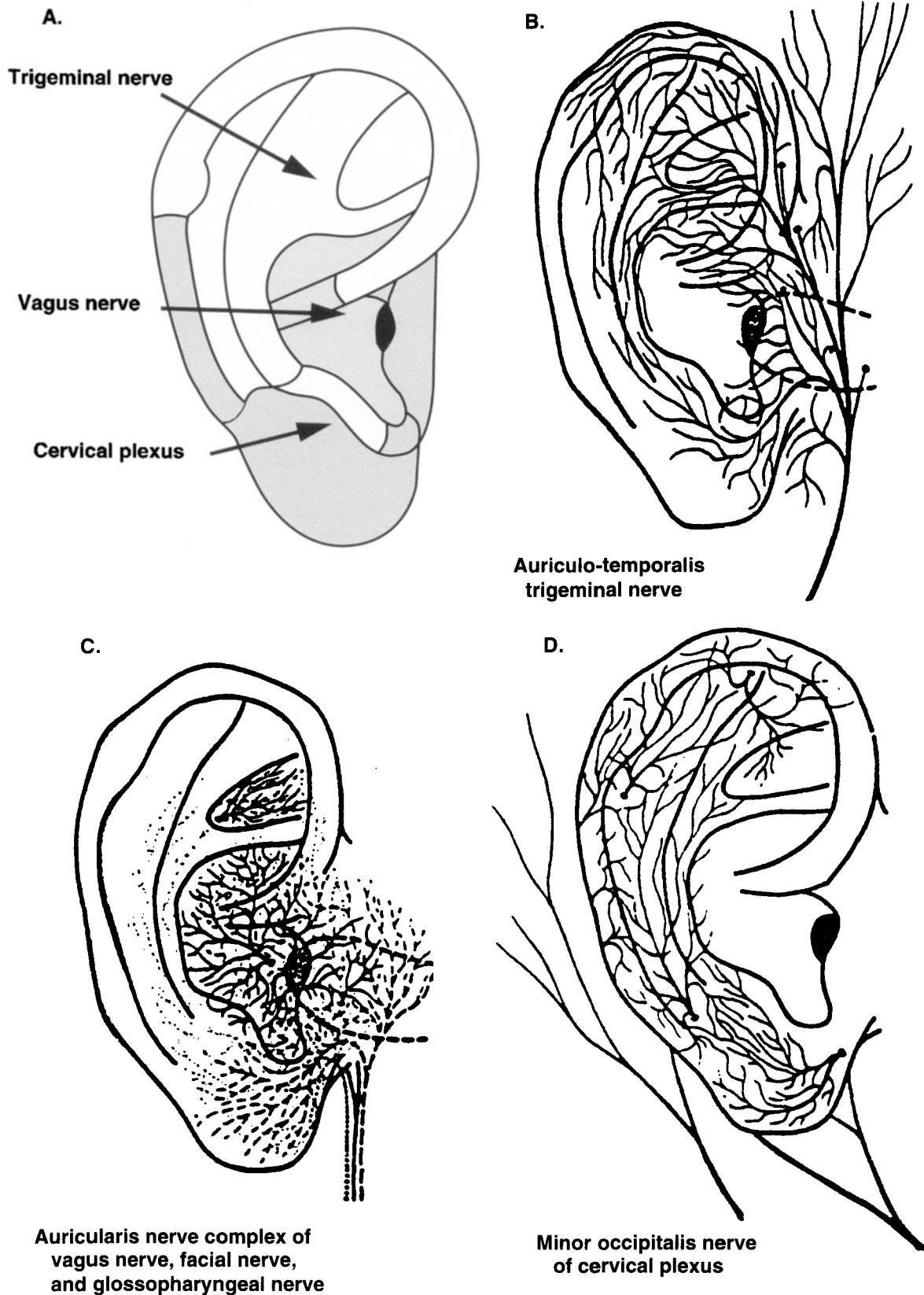


Figure 2.26 Cranial and cervical nerves are distributed separately to different regions of the external ear (A). The auriculo-temporalis division of the trigeminal nerve projects to the antihelix, antitragus and superior helix (B), the vagus nerve projects to the central concha (C), and the minor occipital nerve of the cervical plexus projects to the ear lobe (D). The facial and glossopharyngeal nerves also project to the concha, tragus and medial ear lobe. (Reproduced from Nogier 1972, with permission.)

Cerebral cervical plexus nerves: This set of cervical nerves affects neuronal supply to the head, neck and shoulder. The lesser occipital nerve and the greater auricular nerve of the cervical plexus supply the ear lobe, tragus, and helix tail regions of the auricle. These auricular regions correspond to ectodermal tissue.

Auricular representation of embryological tissue: All vertebrate organisms begin as the union of a single egg and a single sperm, but this one cell soon divides to become a multicellular organism as shown in Figure 2.27. This developing ball of cells ultimately folds in on itself and differentiates into the three different layers of embryological tissue. It is from these three basic types of tissue that all other organs are formed. The organs derived from these embryological layers are projected on to different regions of the auricle. Table 2.5 outlines these embryological divisions and the corresponding auricular regions.

Endodermal tissue: The endoderm becomes the gastrointestinal digestive tract, the respiratory system and abdominal organs such as the liver, pancreas, urethra and bladder. This portion of the embryo also generates parts of the endocrine system, including the thyroid gland, parathyroid gland, and thymus gland. Deep embryological tissue is represented in the concha, the central valley of the ear. Stimulating this area of the ear affects metabolic activities and nutritive disorders of the internal organs that originate from the endoderm layer of the embryo. Disturbances in internal organs create an obstacle to the success of medical treatments, so these metabolic disorders must be corrected before complete healing can occur.

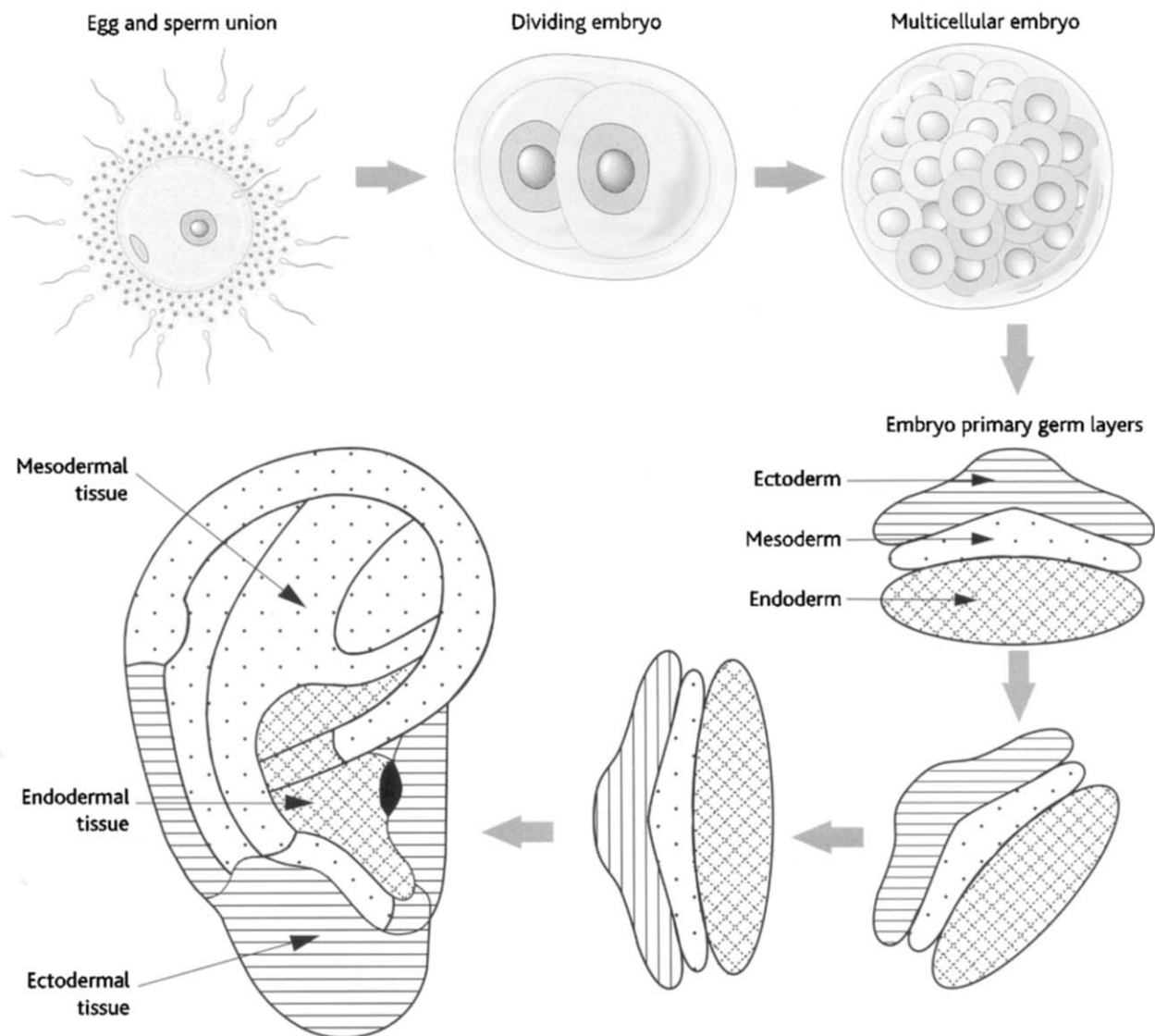


Figure 2.27 The division of embryological cells leads to a ball of tissue that folds in on itself to become the three dermal layers of the endoderm, mesoderm and ectoderm. These embryological tissue layers are represented on three different regions of the auricle. (From Life ART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

Table 2.5 Auricular representation of embryological tissue layers

Endodermal tissue <i>Inner layer</i>	Mesodermal tissue <i>Middle layer</i>	Ectodermal tissue <i>Outer layer</i>
Viscera	Skeletal bones	Skin
Stomach	Striate muscles	Hair
Small intestines	Fascia and sinews	Sweat glands
Large intestines	Tendons	Peripheral nerves
Lungs	Ligaments	Spinal cord
Tonsils	Hearts and cardiac muscle	Brainstem
Liver	Blood cells and blood vessels	Thalamus and hypothalamus
Pancreas	Lymphatic vessels	Limbic system and striatum
Bladder	Spleen	Cerebral cortex
Thyroid gland	Kidneys	Pineal gland
Parathyroid gland	Gonads (ovaries and testes)	Pituitary gland
Thymus gland	Adrenal cortex	Adrenal medulla
Ear concha	Ear antihelix and antitragus	Ear lobe, helix tail and tragus
Central valley	Middle ridge	Outer ridge
Vagus nerve region	Trigeminal nerve region	Cervical plexus region

Mesodermal tissue: The mesoderm becomes skeletal muscles, cardiac muscles, smooth muscles, connective tissue, joints, bones, blood cells from bone marrow, the circulatory system, the lymphatic system, the adrenal cortex and urogenital organs. Musculoskeletal equilibration is regulated by negative feedback control of somatosensory reflexes. Middle embryological tissue is represented on the antihelix, scaphoid fossa, triangular fossa and portions of the helix. Mobilization of body defense mechanisms is only possible if the region of the middle layer is working normally.

Ectodermal tissue: The surface layer originates from the ectoderm of the embryo. The ectoderm becomes the outer skin, cornea, eye lens, nose epithelium, teeth, peripheral nerves, spinal cord, brain and the endocrine glands of the pituitary, pineal and adrenal medulla. This embryological tissue is represented on the ear lobe and helix tail. The surface embryological layer affects the capacity for adaptation and contact to the environment. It reveals psychological resistance reactions not only from the conscious mind, but also from the unconscious, deep psyche. This layer integrates inborn instinctive information with individual learned experiences.

2.8 Nogier phases of auricular medicine

In subsequent revisions of the somatotopic representation on the external ear, Paul Nogier (Nogier 1983) has described different auricular maps than the inverted fetus pattern he originally discovered. These alternative auricular microsystems varied considerably from earlier descriptions of the correspondence between specific organs of the body and the particular regions of the ear where they were represented. Each anatomical area of the external ear could thus represent more than one microsystem pattern. Nogier referred to these different representations as *phases*. The use of this term is analogous to the phases of the moon, just as the same surface of the moon reflects different degrees of reflected light. A round, white ball of light is revealed at the full moon, a semicircle of light at the half moon, and a dark round image at the new moon. The different auricular phases also allude to phase shifts in the frequency of light as it passes through a crystal prism to create different colored beams. The same white beam of light can be sent at different angles through a prism to reveal blue light, green light or red light on the same reflected surface

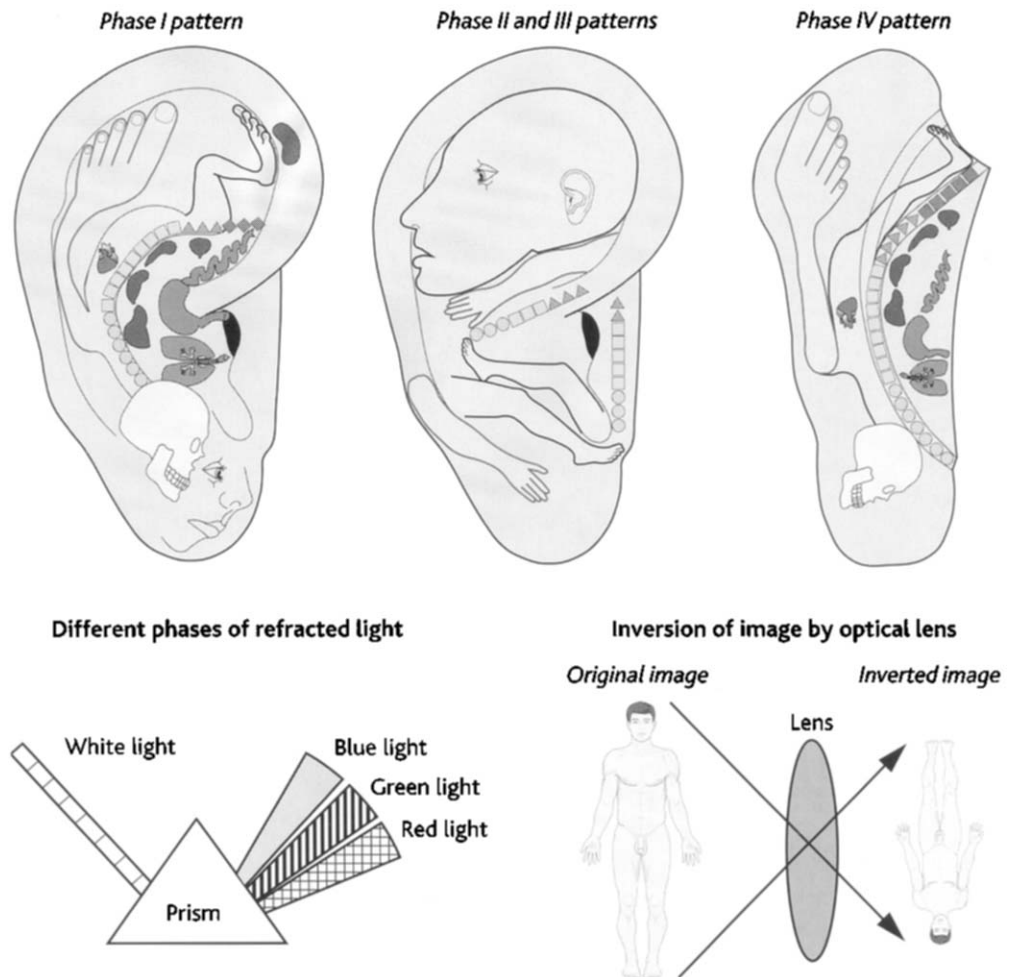


Figure 2.28 Somatotopic images of the different phases on the ear are characterized by an upside down man in Phase I, an upright man in Phase II, a horizontal man in Phase III, and an inverted man on the posterior auricle in Phase IV. The different phases can be symbolized by shifts in the frequency of white light as it passes through a crystal prism to create different colors of refracted light. The first phase is comparable to the inversion of an image by a conventional optical lens.

(Fig. 2.28). Different auricular regions revealed by specific colored light filters were mapped using the Nogier vascular autonomic signal (N-VAS). Changes in the N-VAS pulse response to stimulation of a given region of the ear were found to selectively vary with colors of light.

Nogier proposed that differences between Chinese and European charts may have originated from this unrecognized existence of many reflex systems superimposed on the same areas of the auricle. The occurrence of more than one ear point that corresponds to a given body organ may seem to contradict the general proposition that there is a somatotopic pattern on the ear. Precedence for this phenomenon is found by the presence of multiple somatotopic maps that have already been plotted in the brain of different animal species. As depicted in Figure 2.29, there are at least two somatosensory systems on the cerebral cortex of rats, cats and monkeys: a primary and a secondary somatosensory cortex. There is also a third region of the association cortex that interconnects somatic, motor and multisensory input. Multiple projection systems are also found for the visual and auditory cortex. These different cerebral cortex representations may not be responsible for the phases that Nogier has described for the external ear, but they do indicate that the brain itself has similar multiple microsystem arrangements.

2.8.1 Auricular territories associated with the three embryological phases

A basic reason that Nogier emphasized the occurrence of the phases is that he believed that each type of primary embryological tissue has a certain resonance frequency. The phase shifts in

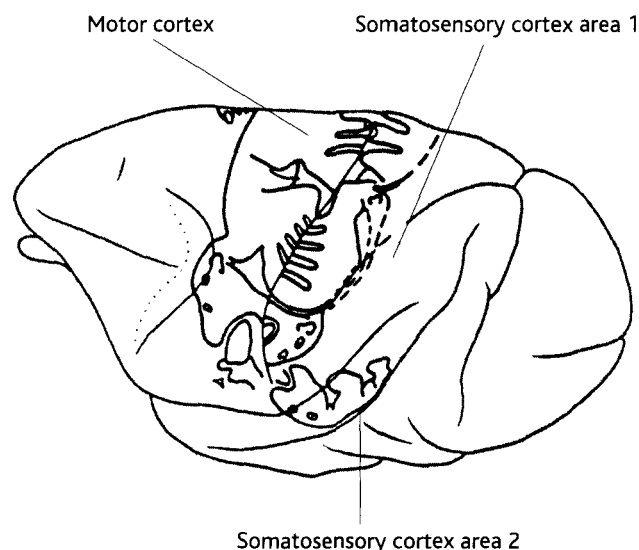


Figure 2.29 *There are multiple projections of the body to the somatosensory cortex in animals, possibly relating to the different somatotopic phases described by Nogier.*

different anatomical regions of the ear are related to differential activation of the frequency resonance of the corresponding tissue of the body. To better indicate how the ear microsystems reflect these resonant phase shifts, the auricle is first divided into three territories (see Figure 2.30). The location of the three territories is based upon their differential innervation by three nerves. The trigeminal nerve supplies Territory 1, the vagus nerve supplies Territory 2, and the cervical plexus nerves supply Territory 3. In Phase I, Territory 1 represents mesodermal and somatic muscular actions, Territory 2 represents endodermal and autonomic visceral effects, and Territory 3 represents ectodermal and nervous system activity. The embryological tissue represented by each territory shifts as one proceeds from Phase I to Phase II to Phase III, as shown in Figure 2.31. The number of each phase corresponds to the region that represents mesodermal tissue. There is actually a fourth territory and a fourth phase, which has not yet been described. The facial nerve supplies the posterior regions of the auricle, Territory 4, and it is said to represent motor neuron control of mesodermal somatic tissue. The shifts of phase are summarized in Table 2.6.

2.8.2 Functional characteristics associated with different Nogier phases

The three primary colors of light are red, green and blue. These same three colors were used to determine discordant resonance responses related to the three phases discovered by Nogier. Red #25 Kodak-Wrattan filters elicited Nogier vascular autonomic signals (N-VAS) identified with the first phase, green #58 Kodak-Wrattan filters elicited N-VAS responses identified with the second phase, and blue #44A Kodak-Wrattan filters elicited N-VAS responses identified with the third phase. Nogier found that there are several reflex systems superimposed upon the auricle, but ear points could react to varying depths of pressure. If an ear point produced an N-VAS response with firm pressure, greater than 120 g/mm², it was said to belong to the deep layer. Ear points reacting to only 5 g/mm² were attributed to the superficial layer, whereas ear points reacting to an intermediate pressure of 60 g/mm² belonged to the middle layer. The deep layer indicates the somatotopic region of the ear that is the most prominent reason for a symptom. The location of the ear point can reveal if the problem is due to the same body area where the patient reports pain, if it is due to referred pain, or if it is due to an emotional problem, such as depression. Nogier found that ear points found at the deep layers were most related to Phase I, points discovered at the superficial layer were most related to Phase II, and ear points discovered at the middle layer were most related to Phase III.

Phase I: The *inverted fetus* pattern is used to treat the majority of medical conditions and is most in concurrence with the Chinese ear reflex points. Phase I represents the tissues and organs of the actual physical body. This phase is the primary source for correcting somatic tissue disorganization that is the principal manifestation of most medical conditions. From a Chinese medical perspective, Phase I ear points indicate acute, yang excess reactions.

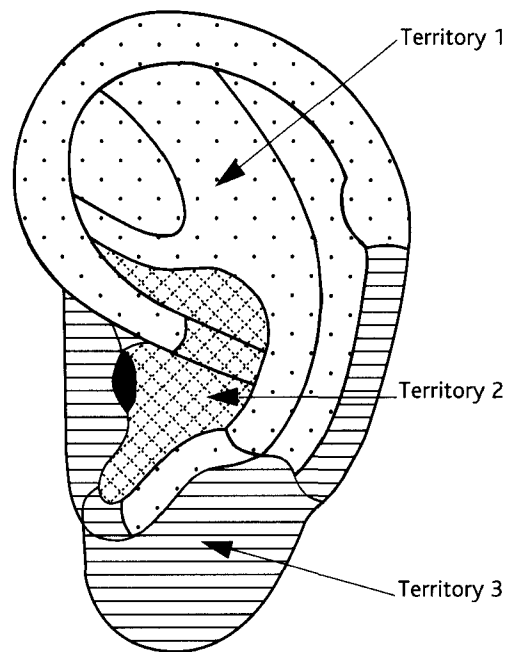


Figure 2.30 Nogier described three different territories of the auricle which are related to three different phases that correspond to different somatotopic representations.

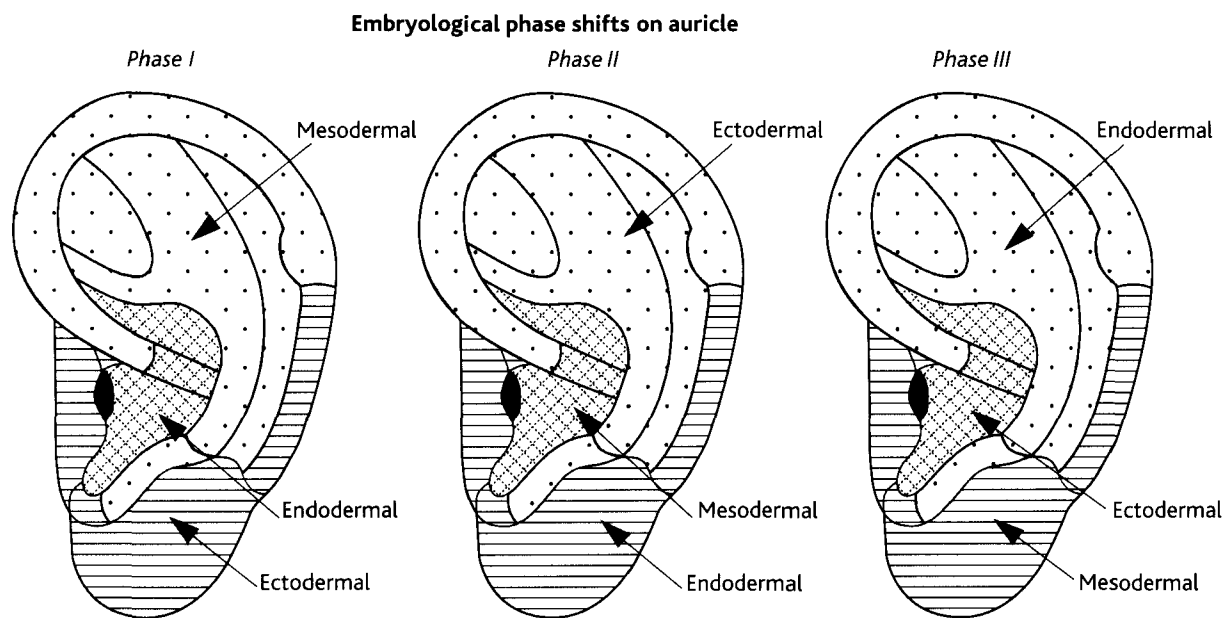


Figure 2.31 Somatotopic correspondences shift with the three Nogier phases between auricular Territory 1, Territory 2, and Territory 3.

Table 2.6 Shifts of Nogier phase on the external ear

	Territory 1 <i>Antihelix area</i>	Territory 2 <i>Concha</i>	Territory 3 <i>Lobe and tragus</i>	Dominant color	Depth of ear point
Phase I	Mesodermal	Endodermal	Ectodermal	Red	Deep layer
Phase II	Ectodermal	Mesodermal	Endodermal	Green	Superficial layer
Phase III	Endodermal	Ectodermal	Mesodermal	Blue	Middle layer

Phase II: The *upright man* pattern is used to treat more difficult chronic conditions that have not responded successfully to treatment of the Phase I microsystem points. Phase II represents psychosomatic reactions and neurophysiological connections to bodily organs. This phase is useful for correcting central nervous system dysfunctions and mental confusion that contribute to the psychosomatic aspects of pain and pathology of chronic illnesses. Phase II points are said to be related to yin degenerative conditions.

Phase III: The *horizontal man* pattern is used the least frequently, but it can be very effective for relieving unusual conditions or idiosyncratic reactions. Phase III affects basic cellular energy, and can correct the energy disorganization that affects cell tissue. It produces subtle changes in the electromagnetic energy fields which surround individual cells and whole physical organs. Phase III points are said to indicate prolonged, yang excess, inflammatory conditions.

Phase IV: The second *upside down man* pattern is represented on the posterior side of the external ear and is essentially the same microsystem represented by Phase I. The Phase IV points are used to treat muscle spasm aspects of a condition, whereas Phase I points indicate sensory aspects of pain. Both Phase I and Phase IV relate to acute pain or ongoing pathological reactions, whereas the other two phases appear with chronic pain. Phase IV is most related to mesodermal muscular tissue represented on Territory 4, the posterior side of the auricle.

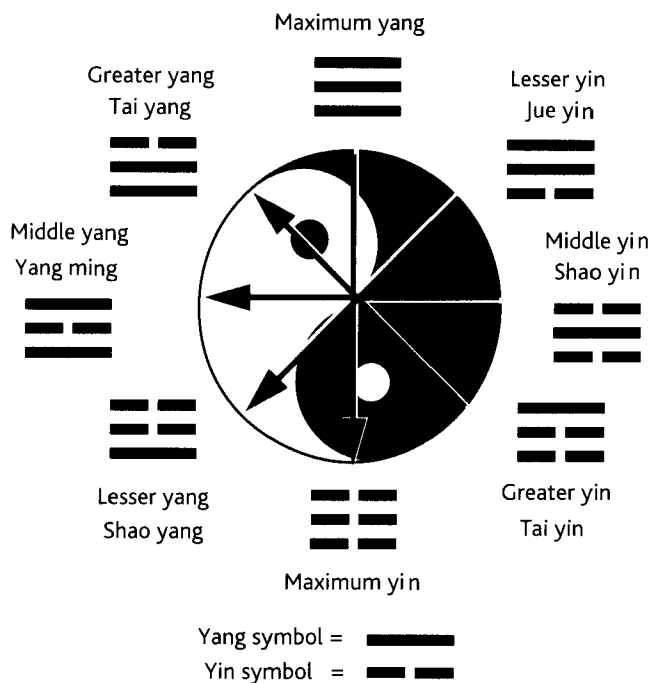
2.8.3 Relationship of Nogier phases to traditional Chinese medicine

Nogier proposed his three phases partly as an attempt to account for some of the discrepancies between the European and the Chinese ear acupuncture charts. Practitioners of auricular medicine suggest that the somatotopic points described by Nogier represent the actual physical organs, whereas the Chinese ear points may relate to neurological or energetic connections to these organs. The different anatomical localizations on the ear for the Kidney, Spleen and Heart points are an example of this view. Nogier placed these three mesoderm-derived organs on the mesodermal region of the internal helix and the antihelix, whereas the Chinese ear charts show these same three organs on the endodermal region of the superior and inferior concha. The concept that the mesodermal organs shifted from the antihelix to the concha was a way of accounting for this divergent representation. Some of the uses of the Kidney point and the Heart point in Chinese acupuncture are often more related to their zang-fu energetic effect than their biological function. Taoism describes the flow of qi energy from various states of yang energy and yin energy, which can be compared to the binary code used in computers and to the active and resting states of a neuron. The Chinese symbolized yang as a solid line and yin as a broken line: various combinations of three such lines form what is known as a trigram. Helms (1995) has cited the work of the French acupuncturist Maurice Mussat in presenting eight such trigrams rotating around the yin–yang symbol. The yang trigrams are diametrically opposite to their corresponding yin trigram. Each trigram code reflects a specific interaction of three basic components of the universe: *matter*, *movement* and *energy*. From a tripartite phase perspective, Nogier's Phase I represents solid *matter*, Phase II represents the control of *movement* by the nervous system, and Phase III represents the echo reverberation of the *energy* of the spirit. Disturbance of the dynamic symmetry of composition of these three functional interactions can result in an imbalance of energy. Dr Richard Feely of Chicago has suggested that these three energy states in Chinese philosophy can be compared to Nogier's three microsystem phases. Sequential shifts in interactions from the initial yang reactions manifested in Phase I, to the chronic degenerative states of Phase II, to the resonance reverberations of Phase III are depicted in the trigram patterns in Figure 2.32.

2.9 Integrating alternative perspectives of auriculotherapy

There has been great interest by some investigators of alternative and complementary medicine in continued neurophysiological research that aims to provide a more scientific basis for acupuncture and auriculotherapy. The discovery of endorphins in the 1970s provided a biochemical mechanism which could account for the amazing observation that injecting the blood or cerebrospinal fluid from one laboratory animal to another could also transfer the analgesic benefits of acupuncture to the second animal. The same neuroanatomical pathways that have now been shown to underlie the descending pain inhibitory systems producing opiate analgesia also affect acupuncture analgesia, thereby providing a physical foundation for acupuncture. The fMRI studies of the human brain

Circular shifts in Chinese trigrams



Binary progression of trigrams

0	000		Maximum yin
1	001		Greater yin
2	010		Middle yin
3	011		Lesser yin
4	100		Lesser yang
5	101		Middle yang
6	110		Greater yang
7	111		Maximum yang

Counter-clockwise shifts in auricular phases

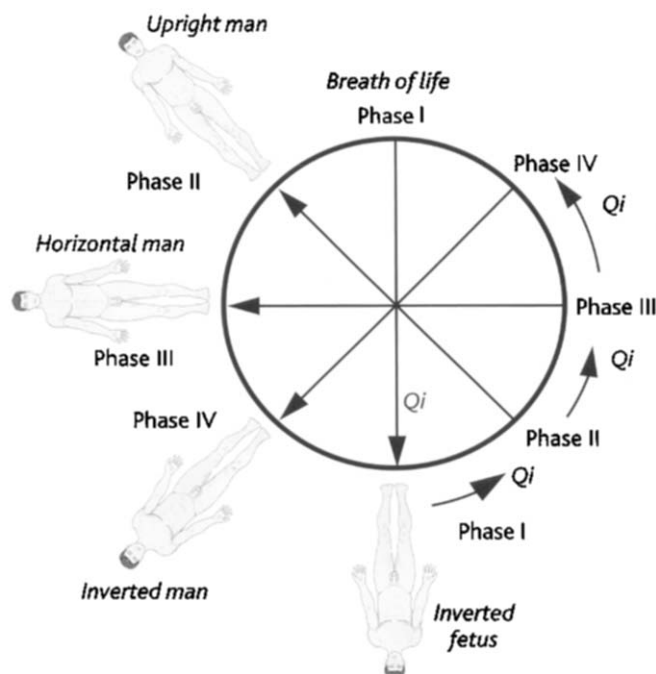


Figure 2.32 The circular progression of yin and yang relationships of Chinese trigrams are compared to the different Nogier phases in auriculotherapy. The numeric, binary progression of trigrams is listed from maximum yin to maximum yang.

demonstrate neural changes that depend upon stimulation of a particular acupoint on the body or on the ear. At the same time, many practitioners of the field of traditional Oriental medicine maintain a deep belief in the energetic principles that were developed in ancient times. Whether viewed as a self-contained micro-acupuncture system, a conduit to macro-acupuncture meridians, ashi points, trigger points, chakra centers, or even the quantum physical explanations of holograms, there is reason to suggest that an unconventional energy profoundly affects the healing effect of auricular acupuncture as well as body acupuncture. Western scientists seem to prefer the neurophysiological perspective, while those trained in Oriental medicine more readily accept an energetic viewpoint.

The differences between the information processing styles of the left and right hemispheres of the cerebral cortex allow for this yin–yang duality. The Western mind prefers the rational order of the left side of the neocortex, with its conscious ability to analyze details and come to logical conclusions, whereas the Oriental mind seems to accept the holistic perspective of the right side of the neocortex, which allows for the interactive relationship of all things. What is needed to comprehend auriculotherapy is a corpus callosum which can integrate both perspectives as complementary viewpoints of a very complex system. This duality of Western and Chinese perspectives has also altered the ear acupuncture charts that have developed in Asia and Europe. After Nogier first discovered the inverted fetus map on the ear in the 1950s, subsequent investigations of the inverted auricular cartography took divergent paths in Europe and China. While there is great overlap in the corresponding points shown in the Chinese and European auricular maps, there are also specific differences. There is a tendency by many individuals to feel the need to choose one system over the other. In my discussions on the subject, I have promoted the acceptance and integration of both systems as clinically valid and therapeutically useful.

It seems paradoxical that two opposite observations could both be correct, but such is the nature in many parts of life, including our current view of subatomic particles. It is probably the arrogance of left brain thinking to suggest that there is only one truth. At the 1999 meeting of the International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine (ICCAAAM), I cited the work of a great English author who has commented on this paradox. The first line of Rudyard Kipling's classic *The ballad of east and west* is well known, but the rest of the verse has even greater relevance to the understanding of the different theoretical views of auriculotherapy.

*Oh, East is East, and West is West, and never the twain shall meet,
Till Earth and Sky stand presently at God's great Judgment Seat;
But there is neither East nor West, nor Border, nor Breed, nor Birth,
When two strong men stand face to face, tho' they come from the ends of the earth.*

Anatomy of the auricle

As with other areas of human anatomy, there are specific terms for identifying opposing directions of the ear and for indicating alternative perspectives. Because other texts on the topic of auricular acupuncture have used a variety of different terms to describe the same regions of the ear, this section will define the anatomical terms used in this manual. Taking the time to learn the convoluted structure of the auricle facilitates a deeper understanding of the corresponding connections between specific regions of the ear to specific organs of the body.

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- 3.3 Anatomical views of the external ear
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- 3.6 Anatomical regions of the posterior ear
- 3.7 Curving contours of the antihelix and antitragus
- 3.8 Somatotopic correspondences to auricular regions
- 3.9 Determination of auricular landmarks
- 3.10 Anatomical relationships of auricular landmarks
- 3.11 Standard dimensions of auricular landmarks

3.1 The spiral of life

The ear consists of a series of concentric circles that spiral from the center of the auricle to a series of curving ridges and deep valleys that spread outwards like an undulating wave. This configuration is very similar to the rings of water waves that radiate out from a splash on a pond. Such an image is depicted in Figure 3.1. Sound waves are similar to waves on water, consisting of oscillating increases then decreases in the compression of air molecules. The external ear is shaped like a funnel to direct these subtle motions of air into the ear canal. Focused sound waves then vibrate against the eardrum like a baton pounding against a bass drum. After being amplified by



Figure 3.1 Concentric rings of water waves symbolize the oscillation of sound waves to which the external ear conforms in rings of ridges and crevices. (Reproduced with permission from Reikifire, Calgary, Canada.)

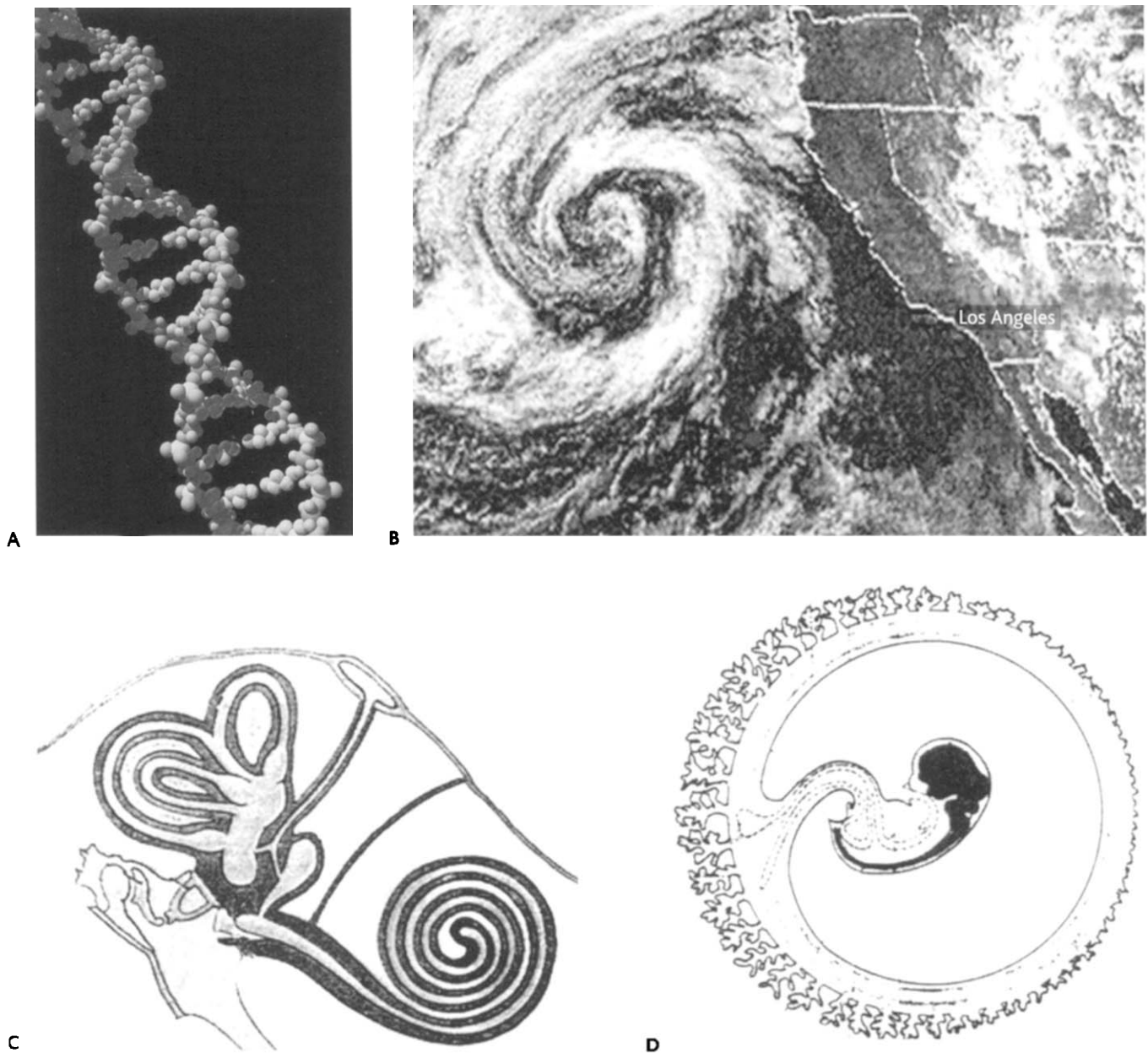


Figure 3.2 Spiral images in nature that reiterate the shape of the auricle include the double helix of DNA strands (A), the swirl of cloud formations in a hurricane (B), the spiraling cochlea of the inner ear (C) and the circular shape of the curving embryo (D). (Fig. 3.2C reproduced from Sadler 2000 Langman's Medical Embryology 8 edn, with permission from Lippincott Williams & Wilkins.)

the serial activation of the ossicle bones of the middle ear, the sound signal generates a traveling wave that produces deflections in the bending of membranes within the snail-shaped inner ear.

The basic shape of both the inner ear and the external ear reiterates the spiral pattern that is a common archetypal symbol. Different examples of this spiral image are shown in Figure 3.2, from the double helix shape of the DNA molecule, to the swirl of cloud formations, to the curving embryo. The Latin word for the shape of a spiral is *helix*. Just as there are two spiraling helices which form the structure of DNA, there are two helices for the auricle, an outer helix and an opposing antihelix. The other common pattern which is represented on the ear is that of a sea shell, and the term for the deep central region of the auricle is the *concha*, which is Latin for shell. From the different sea shells indicated in Figure 3.3, one can recognize a basic spiral shape common to all of them. In *The spiral of life*, Michio Kushi (1978) has suggested that this spiraling pattern relates to the cosmic order of the universe as seen from Oriental medicine, whereas followers of ayurvedic medicine emphasize the symbol of the coiled serpent. The undulating image of the two cobras represents the rise of kundalini forces of the ida and pingala spiraling around the sushumna to energize the seven primary chakras.



Figure 3.3 Sea shells that repeat the spiral pattern of the external ear. The helix-shaped, spiral tips and the concha-shaped, central crevices are very distinctive in the two large conch shells.

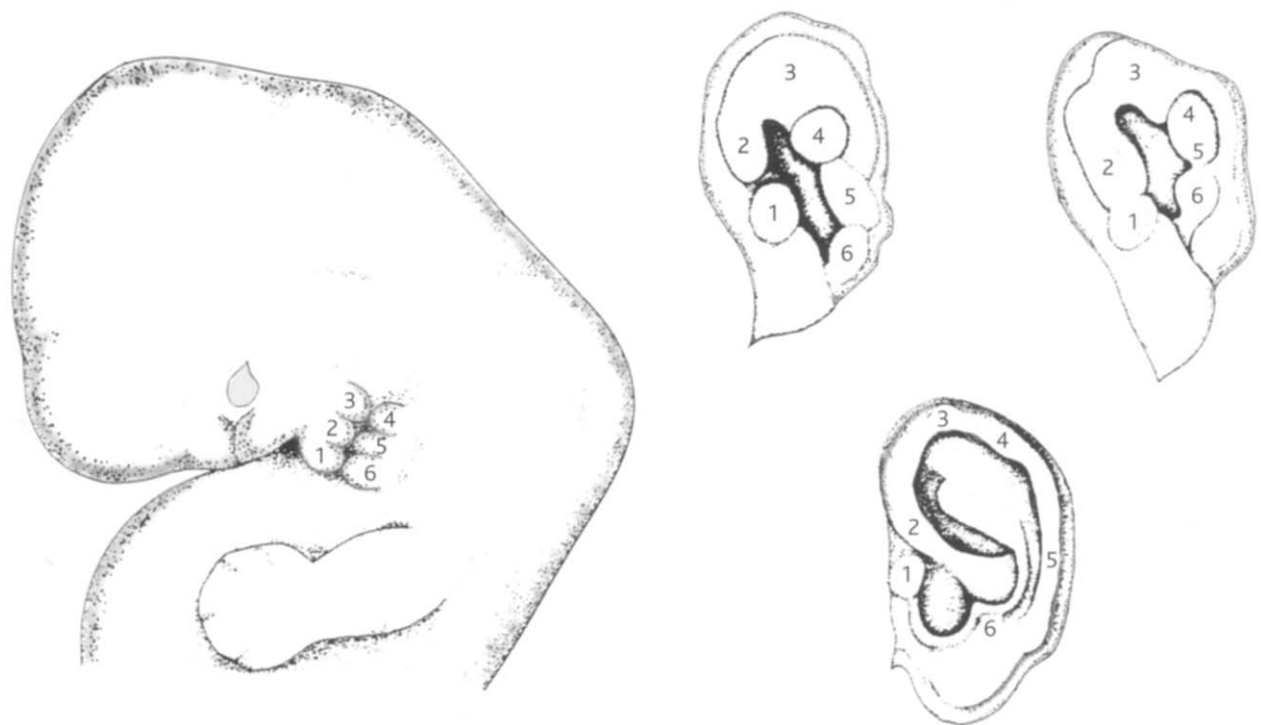


Figure 3.4 Cellular buds of the developing embryo transform into the external ear during fetal development. Six nodules on the embryo migrate to six different positions that become the auricle.

3.2 Neuro-embryological innervations of the external ear

The biological life of the human embryo begins as the union of cells that divide and multiply into a complex ball of embryonic tissue. The auricle of the ear results from the coalescence of six buds which appear on the 40th day of embryonic development. Shown in Figure 3.4 is a representation of the cellular buds that transform into the external ear during the fourth month of fetal development. These fetal buds are the expression of mesenchymal proliferation of the first two branchial arches that subsequently develop into the cranial nerves that ultimately innervate the auricle. The superior regions of the auricle are innervated by the auricular–temporal branch of the mandibular trigeminal nerve. The concha is innervated by the auricular branch of the vagus nerve. A third region is supplied by the lesser occipital nerve and the great auricular nerve, both branches of the cervical plexus. The seventh cranial nerve which regulates facial muscles sends neuronal connections to the posterior side of the auricle.

Bossy (1979) has summarized the studies which delineate the three territories of the auricle. The superior somesthetic region is innervated by the trigeminal and sympathetic nerves, a central visceral region is innervated by the parasympathetic vagus nerve, and a lobular region is innervated by the superficial cervical plexus. The lobular area has no pronounced autonomic nerve manifestation. The differential dispersement of cranial nerves provides an embryological basis for the functional divisions between specific auricular regions and corresponding parts of the gross anatomy. The somatosensory trigeminal nerve innervates cutaneous and muscular regions of the actual face and also supplies the region of the auricle that corresponds with musculoskeletal functions. The autonomic vagus nerve innervates thoracic and abdominal visceral organs and also

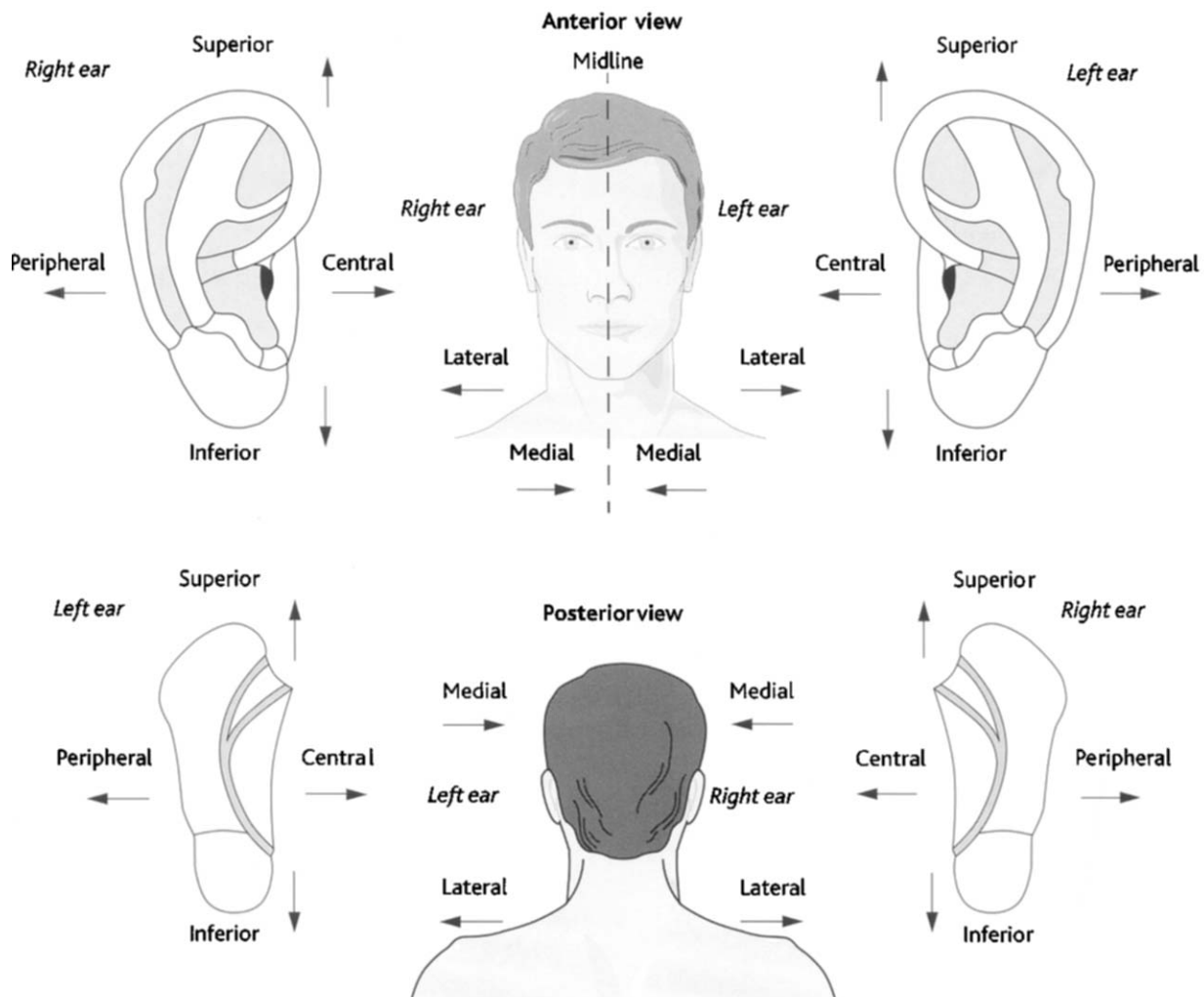


Figure 3.5 Anatomical perspectives of the head and the external ear in anterior and posterior surface views. The superior, inferior, central and peripheral directions of the auricle are indicated relative to each other.

supplies the central region of the auricle associated with internal organs. The concha of the ear is the only region of the body where the vagus nerve comes to the surface of the skin. The cervical plexus nerves regulate blood supply to the brain and are associated with diencephalic and telencephalic brain centers represented on the inferior ear lobe.

While it seems logical that the auricle is part of the auditory pathway, examination of other animal species shows that the external ear is not only used for the function of hearing. Bossy (2000) has observed that the ears of animals are used to protect against the elements and against predators. The desert hare, desert fox and desert mouse all have very large auricles compared to their non-desert relatives, the purpose of which is to facilitate heat loss through the skin over the ears. African elephants that live in the hot plains have larger ears than Indian elephants for a similar purpose of heat exchange. The series of electroconductive points that have been identified on the shaved skin of rodents suggest that the occurrence of body acupoints and ear points may relate to the lateral line system of fish. This same system by which fish sense the subtle movements of water may provide the evolutionary foundation for acupuncture points on the body and the ear.

3.3 Anatomical views of the external ear

To refer to any object in three dimensional space, there must be certain points of reference. As a complex convoluted structure, the auricle must be viewed from different angles and from different depths. Specific terms will be used to indicate these different perspectives of the ear which are indicated in Figure 3.5.

Surface view:	The front side of the external ear is easily available to view. The auricle is diagonally angled from the side of the skull such that it extends from both the anterior aspects and the lateral sides of the head.
Hidden view:	Vertical or underlying surfaces of the external ear are not easy to view, thus the auricle must be pulled back by retractors in order to reveal the hidden regions.
Posterior view:	The back side of the external ear faces the mastoid bone behind the ear.
External surface:	The higher regions of the external ear form the external surface view.
Internal surface:	The vertical or underlying surface regions of the ear form the hidden view.
Superior side:	The top of the ear is directed toward the upper or dorsal position.
Inferior side:	The bottom of the ear is directed toward the lower or ventral position.
Central side:	The medial, proximal side of the ear is directed inward toward the midline of the head.
Peripheral side:	The lateral, distal side of the ear is directed outward from the midline of the head.

3.4 Depth view of the external ear

Because two-dimensional paper can not adequately represent the three-dimensional depth of the auricle, certain symbols have been developed to represent changes in depth. If one were to think of the rising and falling swells of a wave or the ridges of a hill, the top of the peak is the highest position, indicated by an open circle, the descending slope is indicated by a square, and the lowest depths are shown as a filled circle. In Figure 3.6, the deeper, central concha contains areas represented by filled circles, the surrounding wall of the concha is represented by squares, and the peaks of the antihelix and antitragus are shown with open circles.

Raised ear point:	Regions of the ear which are elevated ridges or are flat surface protrusions. Represented by <i>open circle</i> symbols. ○
Deeper ear point:	Regions which are lower in the ear, like a groove or depression. Represented by <i>solid circle</i> symbols. ●
Hidden ear point:	Regions of the ear which are hidden from view because they are perpendicular to the deeper, auricular, surface regions or they are on the internal, underside of the auricle. Some texts use a broken circle symbol to represent these hidden points. Represented by <i>solid square</i> symbols. ■
Posterior ear point:	Regions of the back side of the ear that face toward the mastoid bone. Represented by <i>open square</i> symbols. □

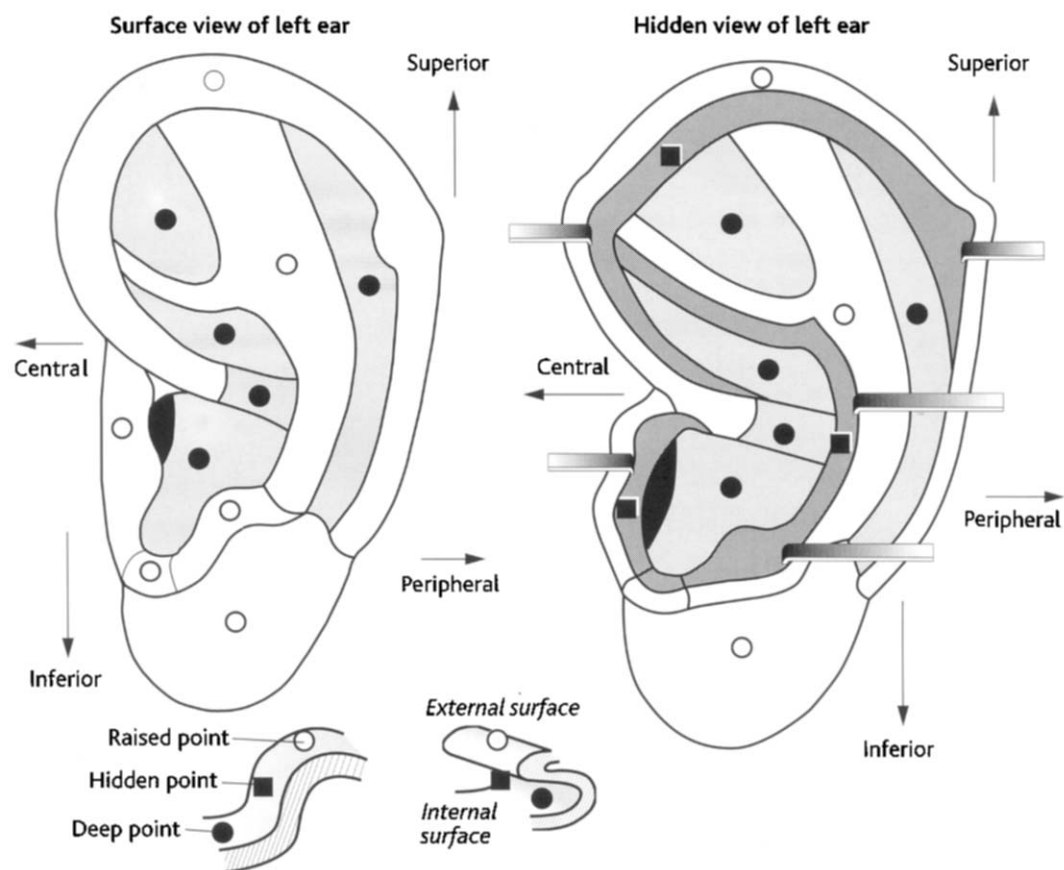


Figure 3.6 A depth view of the ear with the symbols used to represent raised regions (○), deep regions (●), and hidden regions (■) of the auricle.

3.5 Anatomical regions of the external ear

Classic anatomical texts have presented specific anatomical terms for certain regions of the external ear. This appendage is also known as the pinna or auricle. Latin terms were used to describe designated regions of the ear as well as specific terms that were developed at the meetings of the World Health Organization on acupuncture nomenclature. Some regions of the external ear are described in auricular acupuncture texts, but are not discussed in conventional anatomy books. The official terms for the external ear that were described in the *Nomina anatomica* (International Congress of Anatomists 1977) included 112 different terms for the internal ear (*Auris interna*), 97 terms for middle ear (*Auris media*), but only 30 terms for the external ear (*Auris externa*). The nine primary auricular structures that were identified in Woerdeman's (1955) classic anatomy text included the helix, antihelix, tragus, antitragus, fossa triangularis, scapha, lobule, concha and Darwin's tubercle. There are two additional subdivisions for the limbs of the antihelix, the superior crus and the inferior crus, and two subdivisions of the concha, a superior cymba concha and an inferior cavum concha. Delineation of the antitrago-helicine fissure, which separates the antitragus from the antihelix, brings the total to 14 auricular terms for the lateral view of the auricle and 12 additional terms for the mastoid view of the ear. Subsequent anatomy books, such as Hild's (1974) *Atlas of human anatomy* or Clemente's (1997) *Anatomy: a regional atlas of the human body*, basically concur with these earlier designations for the external ear. Anatomists interested in auricular acupuncture have thus considered supplemental terminology to delineate the structures of the auricle that are used in the clinical practice of auriculotherapy.

The outer ridge of the auricle is referred to as the helix, which is the Latin term for a spiral pattern. A middle ridge within this outer rim is called the antihelix. The helix is subdivided into a central helix root, an arching superior helix, and the outermost helix tail. The cauda, or tail, refers to a long, trailing hind portion, like the tail of a comet. The subsections of the antihelix include an antihelix tail at the bottom of the middle ridge, an antihelix body in the center, and two limbs that extend from the antihelix body, the superior crus and the inferior crus. A fossa in Latin refers to a

fissure, or groove. Between the two limbs of the antihelix lies a sloping valley known as the triangular fossa, whereas the scaphoid fossa is a long, slender groove that separates the higher ridges of the antihelix from the helix tail.

Adjacent to the face and overlying the auditory canal is a flat section of the ear known as the tragus. Opposite to the tragus is another flap, labeled the antitragus. The latter is a curving continuation of the antihelix, forming a circular ridge that surrounds the central valley of the ear. A prominent crease separates the antihelix from the antitragus. Below the antitragus is the soft, fleshy ear lobe, and between the antitragus and the tragus is a U-shaped curve known as the intertragic notch. The deepest region of the ear is called the concha, indicating its shell-shaped structure. The concha is further divided into an inferior concha below and a superior concha above. While most anatomical texts (Clemente 1997; Woerdeman 1955) respectively refer to these

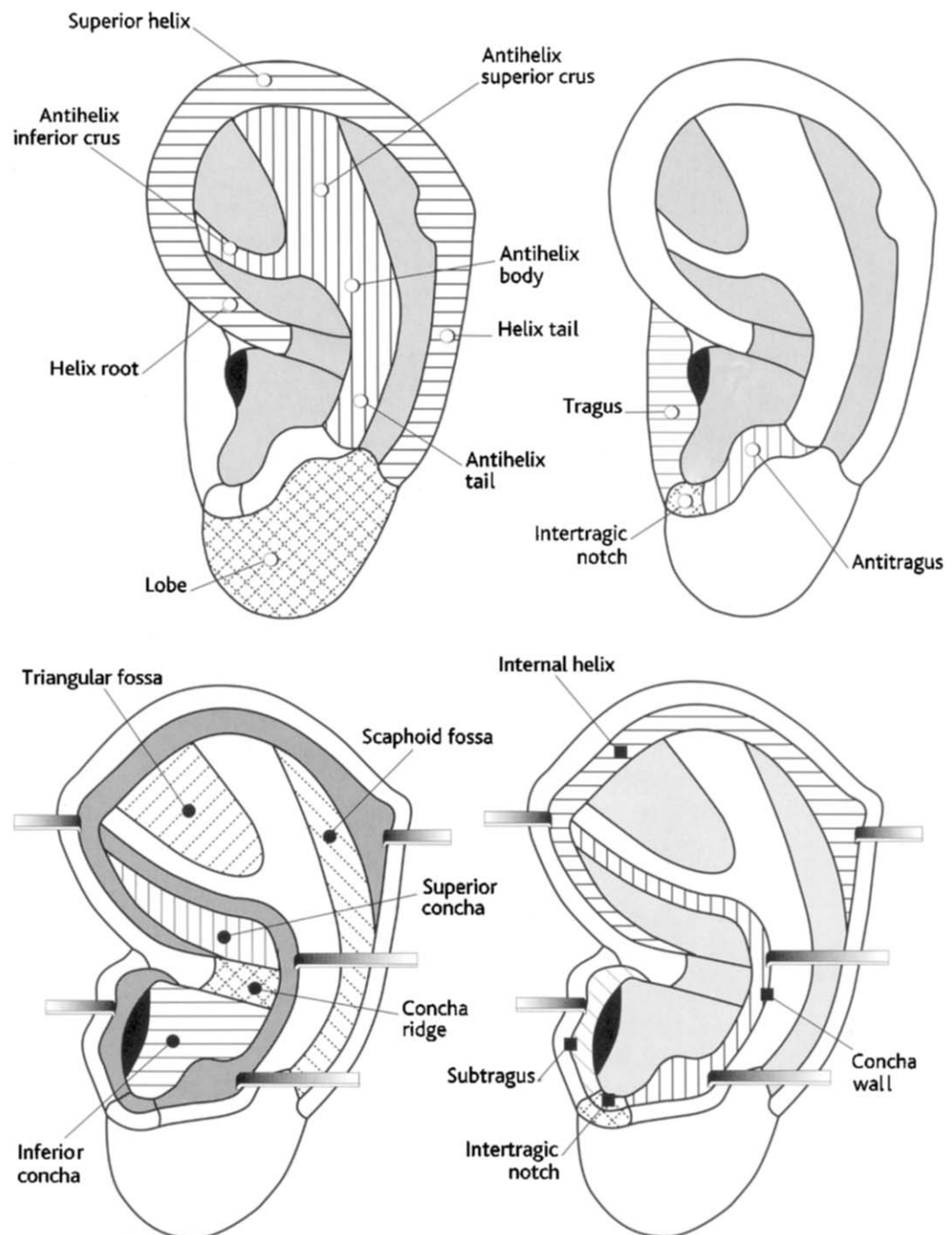


Figure 3.7 Terms used for specific anatomical regions on the external ear: helix, antihelix, tragus, antitragus, triangular fossa, scaphoid fossa, superior concha and inferior concha.

two areas as the *cymba conchae* and the *cavum conchae*, the 1990 nomenclature committee of the World Health Organization (WHO 1990a) concluded that superior concha and inferior concha were more useful designations. These two major divisions on the concha are separated by a slight mound. This prolongation of the helix onto the concha floor is identified in this text as the concha ridge. A vertical elevation that surrounds the whole concha floor has been designated as the concha wall. This hidden wall area of the auricle is not identified in most anatomical texts. Two other hidden areas of the external ear include the subtragus underneath the tragus and the internal helix beneath the helix root and superior helix.

On the back side of the ear is a whole surface referred to as the posterior side of the auricle. It lies across from the mastoid bone of the skull. This region is subdivided into a posterior groove behind the antihelix ridge, a posterior lobe behind the ear lobe, a posterior concha behind the central concha, a posterior triangle behind the triangular fossa, and the posterior periphery behind the scaphoid fossa and helix tail. Taking the time to visually recognize and touch these different contours of the ear assists practitioners of auriculotherapy in understanding the somatotopic correspondences between the external ear and specific anatomical structures. Diagrams of specific anatomical regions of the auricle are shown in Figure 3.7.

Ear canal (auditory meatus): The funnel-shaped orifice that leads from the external ear to the middle ear and inner ear is an elliptical oval that separates the inferior concha from the subtragus.

Helix: This outermost, circular ridge on the external ear provides a folded, cartilaginous rim around the auricle. It looks like a question mark (?).

Helix root: The initial segment of the helix ascends from the center of the ear up toward the face.

Superior helix: The highest section of the helix is shaped like a broad arch.

Helix tail: The final region of the helix descends vertically downward along the most peripheral aspect of the ear.

Antihelix: This Y-shaped ridge is 'anti' or opposite to the helix ridge and forms an inner, concentric hill that surrounds the central concha of the auricle.

Superior crus of the antihelix: The upper arm and vertical extension of the antihelix.

Inferior crus of the antihelix: The lower arm and horizontal extension of the antihelix. This flat-edged ridge overhangs the superior concha below it.

Antihelix body: A broad sloping ridge at the central third of the antihelix.

Antihelix tail: A narrow ridge at the inferior third of the antihelix.

Tragus: The tragus of the auricle is a vertical, trapezoid shaped area joining the ear to the face, projecting over the ear canal.

Antitragus: This angled ridge is 'anti' (opposite to) the tragus that rises above the lowest portion of the inferior concha. It has a distinct groove that separates the antitragus from the antihelix tail above it and a less distinct crevice where the antitragus meets the intertragic notch below it.

Intertragic notch: This U-shaped curve superior to the medial ear lobe separates the tragus from the antitragus.

Lobe: This soft, fleshy tissue is found at the most inferior part of the external ear.

Scaphoid fossa: A crescent-shaped, shallow valley separating the helix and the antihelix. 'Fossa' refers to a fissure, groove, or crevice, whereas 'scaphoid' refers to the scaffolding used to form the outer structure of a boat or building while it is under construction.

Triangular fossa (navicular fossa): This triangular groove separates the superior crus and the inferior crus of the antihelix. It is shaped like an arch on the window of a Gothic cathedral.

Concha: A shell-shaped valley at the very center of the ear, concha refers to the conch sea shell.

Superior concha: Known as the *cymba concha* in classical anatomical texts, the upper hemiconcha is found immediately below the inferior crus of the antihelix.

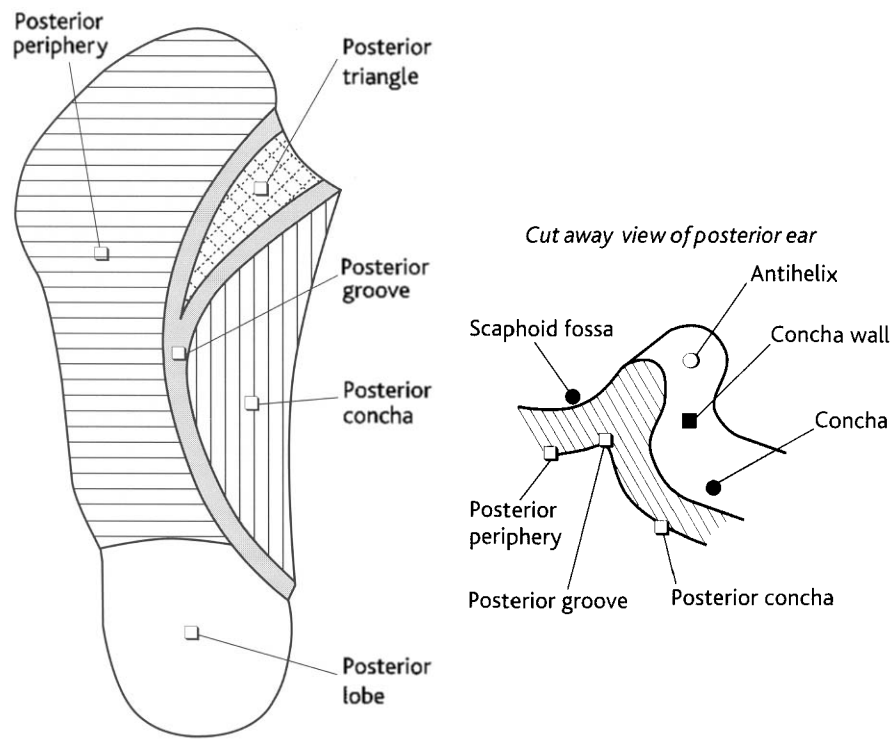


Figure 3.8 Terms used to identify specific areas of the posterior regions of the external ear.

Inferior concha: Formally known as the *cavum concha* in classical anatomical texts, the lower hemiconcha is found immediately peripheral to the ear canal.

Concha ridge: This raised ridge divides the superior concha from the inferior concha. It is the anatomical prolongation of the helix root onto the concha floor.

Concha wall: The hidden, vertical region of the ear rises up from the concha floor to the surrounding antihelix and antitragus. The concha wall adjacent to the antihelix is a curving, vertical surface which rises from the floor of the concha up to the antihelix ridge. The concha wall adjacent to the antitragus is a vertical region underneath the antitragus ridge that leans over the lower inferior concha floor.

Subtragus: This underside of the tragus overlies the ear canal.

Internal helix: This hidden, underside portion of the brim of the helix spirals from the center of the helix to the top of the ear and around to the helix tail.

3.6 Anatomical regions of the posterior ear (Figure 3.8)

- Posterior lobe:** This soft fleshy region behind the lobe occurs at the bottom of the posterior ear.
- Posterior groove:** A long vertical depression along the whole back of the posterior ear which lies immediately behind the Y-shaped antihelix ridge on the front side of the auricle.
- Posterior triangle:** The small superior region on the posterior ear which lies between the two arms of the Y-shaped posterior groove.
- Posterior concha:** The central region of the posterior ear found immediately behind the concha.
- Posterior periphery:** The outer, curved region of the posterior ear behind the helix and the scaphoid fossa. It lies peripheral to the posterior groove.

3.7 Curving contours of the antihelix and antitragus

The contours of the ear have different shapes at different levels of the antihelix and the antitragus as the concha wall rises up to meet them. These differences in contour are useful in distinguishing

Contours of the antihelix and antitragus

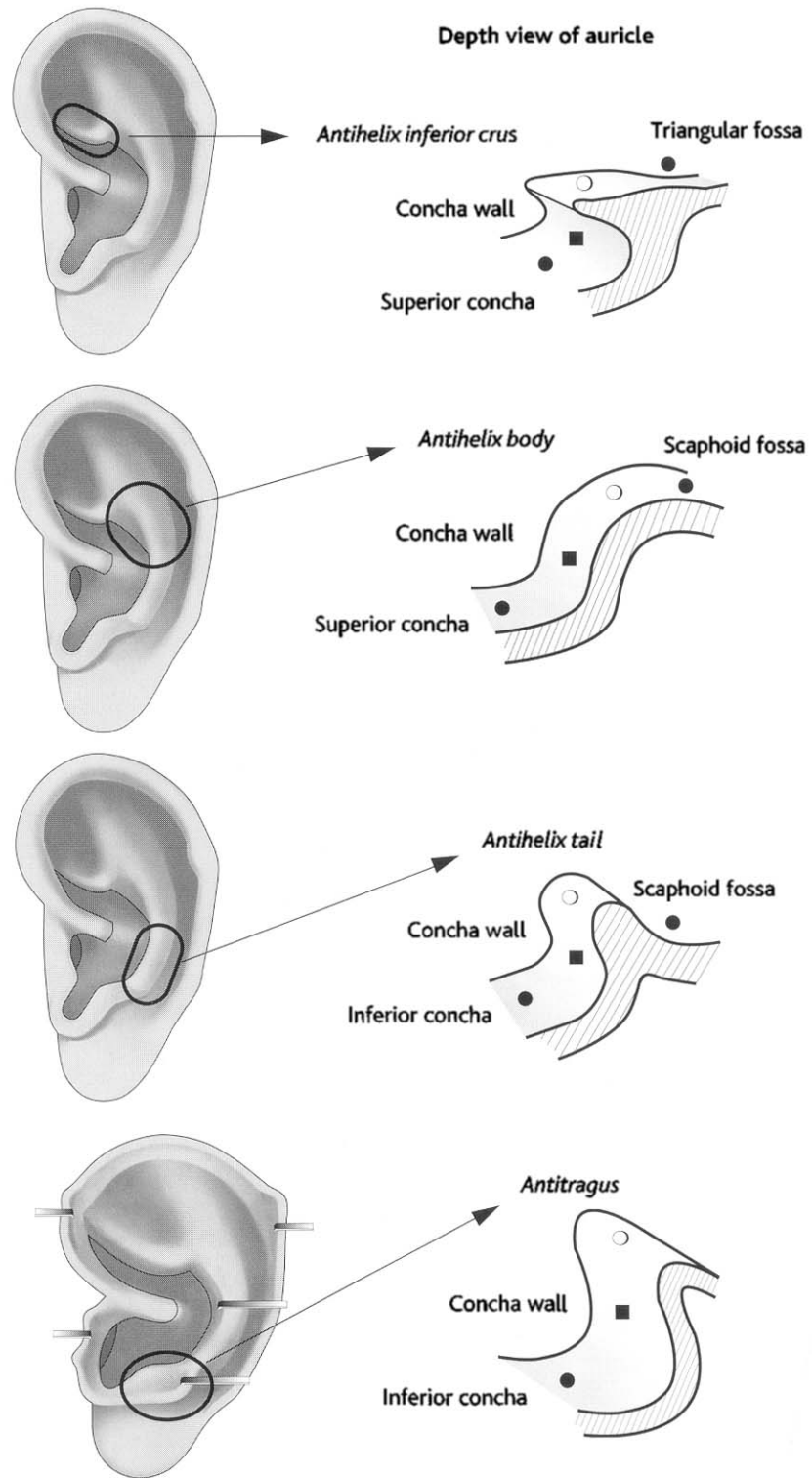


Figure 3.9 A depth view shows changes in the curving contours of the antihelix descending from the inferior crus to the antihelix body, antihelix tail and antitragus.

different anatomical features on the ear which relate to different correspondences to body regions. These depth views are presented in Figure 3.9.

Depth view of the inferior crus of antihelix: At this level of the antihelix, the concha wall exhibits a sharp overhang before it curves back underneath and then descends down into the superior concha. The inferior crus itself is somewhat flat, before gradually descending into the triangular fossa. The top surface of this section of the antihelix corresponds to the lumbosacral vertebrae, whereas the concha wall below it represents the sympathetic nerves affecting blood supply to the lower spine.

Depth view of the antihelix body: At this level of the antihelix, the concha wall exhibits a gradual slope before it descends down into the superior concha. The antihelix body is like a broad, gentle mound before it curves down peripherally into the scaphoid fossa. The concha side of this section of the antihelix corresponds to the thoracic spine, whereas the concha wall below this region represents the sympathetic nerves affecting blood supply to the upper back.

Depth view of the antihelix tail: At this level of the antihelix, the concha wall exhibits a steep slope before it descends down into the inferior concha. The antihelix tail is like a long narrow ridge before it curves down peripherally into the scaphoid fossa. The concha side of this inferior section of the antihelix corresponds to the cervical spine, whereas the concha wall below this region represents the sympathetic nerves affecting blood supply to the neck.

Depth view of the antitragus: At this level of the antitragus, the concha wall forms an angled vertical wall, which curves downward from the antitragus to the inferior concha. The antitragus corresponds to the skull, whereas the concha wall represents the thalamus of the brain.

3.8 Somatotopic correspondences to auricular regions

In auriculotherapy, an active reflex point is only detected when there is pathology, pain or dysfunction in the corresponding part of the body. If there is no bodily problem, there is no ear reflex point. An active reflex point is identified as an area of the ear which exhibits increased sensitivity to applied pressure and increased electrodermal skin conductivity. The anatomical organ health disorders commonly associated with each part of the auricle are presented below (see Figures 3.10 and 3.11).

Helix: Anti-inflammatory points and treatment of allergies and neuralgias.

Helix root: External genitals, sexual disorders, urogenital dysfunctions, diaphragm.

Superior helix: Allergies, arthritis, and anti-inflammatory processes.

Helix tail: Representing the dorsal horn, sensory neurons of the spinal cord and the pre-ganglionic sympathetic nervous system, this region is used for peripheral neuropathies and neuralgia.

Antihelix: Main trunk and torso of the body that is part of the musculoskeletal system.

Superior crus: Lower extremities of leg and foot.

Inferior crus: Lumbosacral spine, buttocks, sciatica, low back pain.

Antihelix body: Thoracic spine, chest, abdomen, upper back pain.

Antihelix tail: Cervical spine, throat muscles, neck pain.

Lobe: Cerebral cortex, lobes of the brain, sensation of the face, eye, jaw, and dental analgesia.

The ear lobe represents conditioned reflexes, psychological resistances and emotional blocks.

Tragus: Corpus callosum, appetite control, adrenal gland.

Antitragus: Skull, head, and treatment of frontal, temporal and occipital headaches.

Intertragic notch: Pituitary gland, control of endocrine glands, hormonal disorders.

Scaphoid fossa: Upper extremities, such as the shoulder, arm, elbow, wrist, hand and fingers.

Triangular fossa: Lower extremities, such as the hip, knee, ankle, foot, uterus and pelvic organs.

Concha: Visceral organ disorders.

Superior concha: Abdominal organs, such as the spleen, pancreas, kidney and bladder.

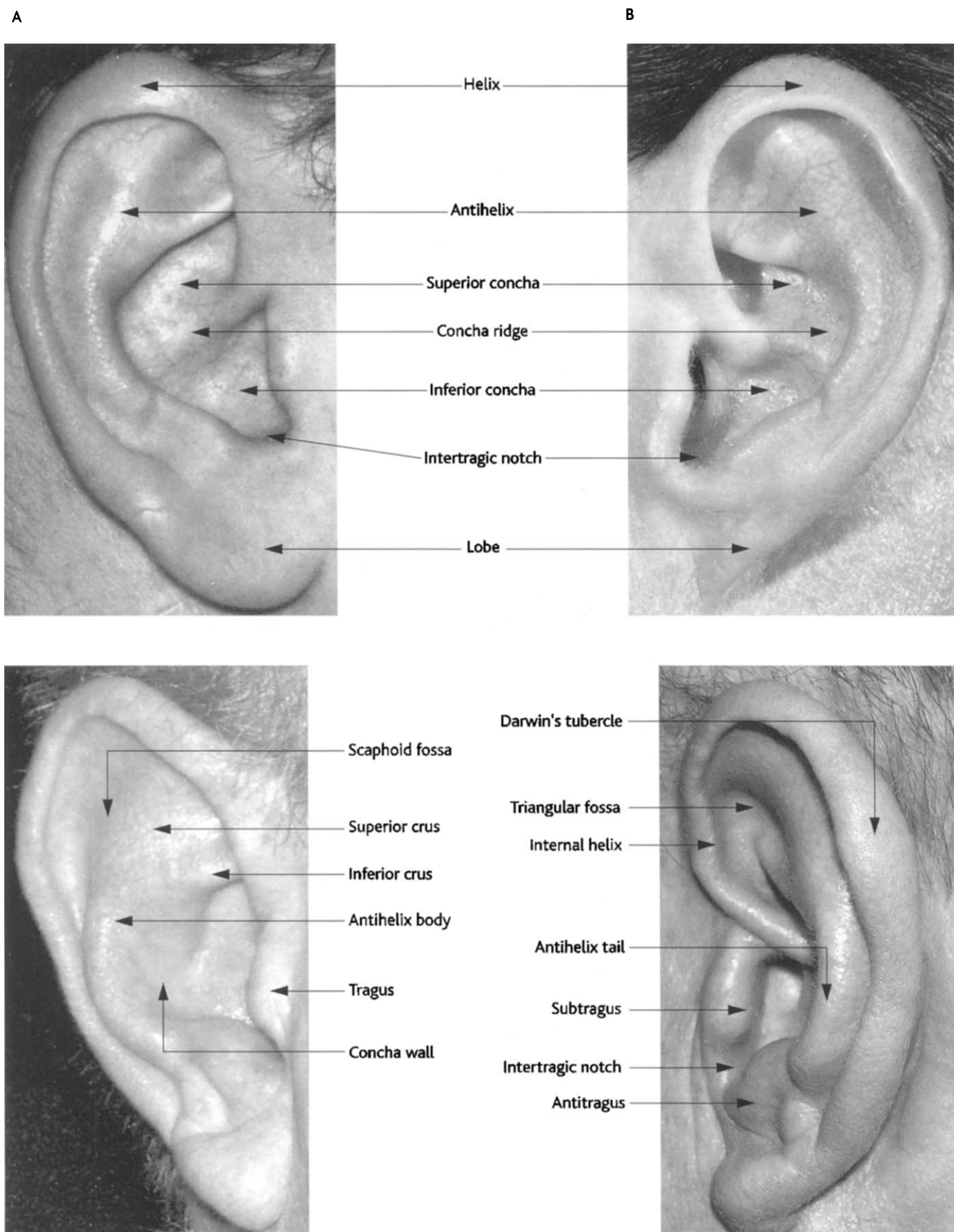


Figure 3.10 Photographs of the anterior surface of the external ear showing the circular ridges and crevices of different anatomical areas.

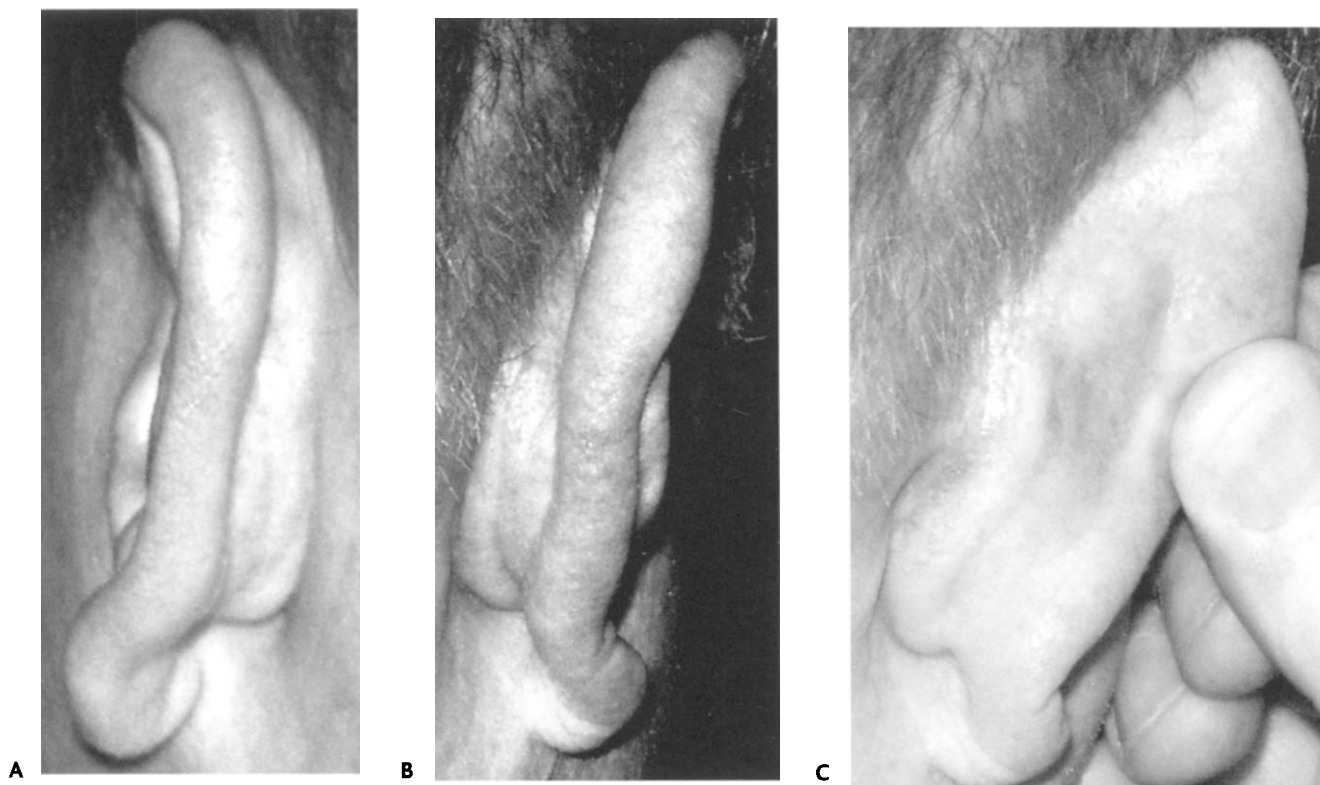


Figure 3.11 Photographs of the posterior surface of the external ear highlight the auricular regions behind the helix and the concha of the left ear (A), the right ear (B), and the posterior surface pulled back (C).

Inferior concha: Thoracic organs, such as the heart and lungs, and also substance abuse.

Concha ridge: Stomach and liver.

Concha wall: Thalamus, brain, sympathetic nerves, vascular circulation, general control of pain.

Subtragus: Laterality problems, auditory nerve, internal nose, throat.

Internal helix: Internal genital organs, kidneys, allergies.

Posterior ear: Motor involvement with body problems, such as muscle spasms and motor paralysis.

Posterior lobe: Motor cortex, extrapyramidal system, limbic system.

Posterior groove: Motor control of muscle spasms of paravertebral muscles.

Posterior triangle: Motor control of leg movement, leg muscle spasms, and leg motor weakness.

Posterior concha: Motor control of internal organs.

Posterior periphery: Motor neurons of spinal cord, motor control of arm and hand movements.

3.9 Determination of auricular landmarks

One procedure for identifying the same region of the auricle from one person to the next is to examine the ear for distinguishing landmarks. While the size and shape of the ear may greatly vary between different individuals, the auricular landmarks are fairly consistent across most patients. They are depicted in Figure 3.12, represented by a *solid triangle*. These landmarks are distinguished by the beginning or the end of the different subsections of the external ear. The name and numbering of the 18 landmarks begins with LM 0 because it is at the same location as a primary master point on the auricle, Point Zero. This first landmark, also called ear center, is distinguished as a pronounced notch where the helix root rises up from the concha ridge. It is found at the very center of the ear and is a primary reference point to compare to the location of other regions of the auricle. The second landmark, LM 1, is located on the helix root where the helix crosses the inferior crus of the antihelix and where the auricle separates from the face.

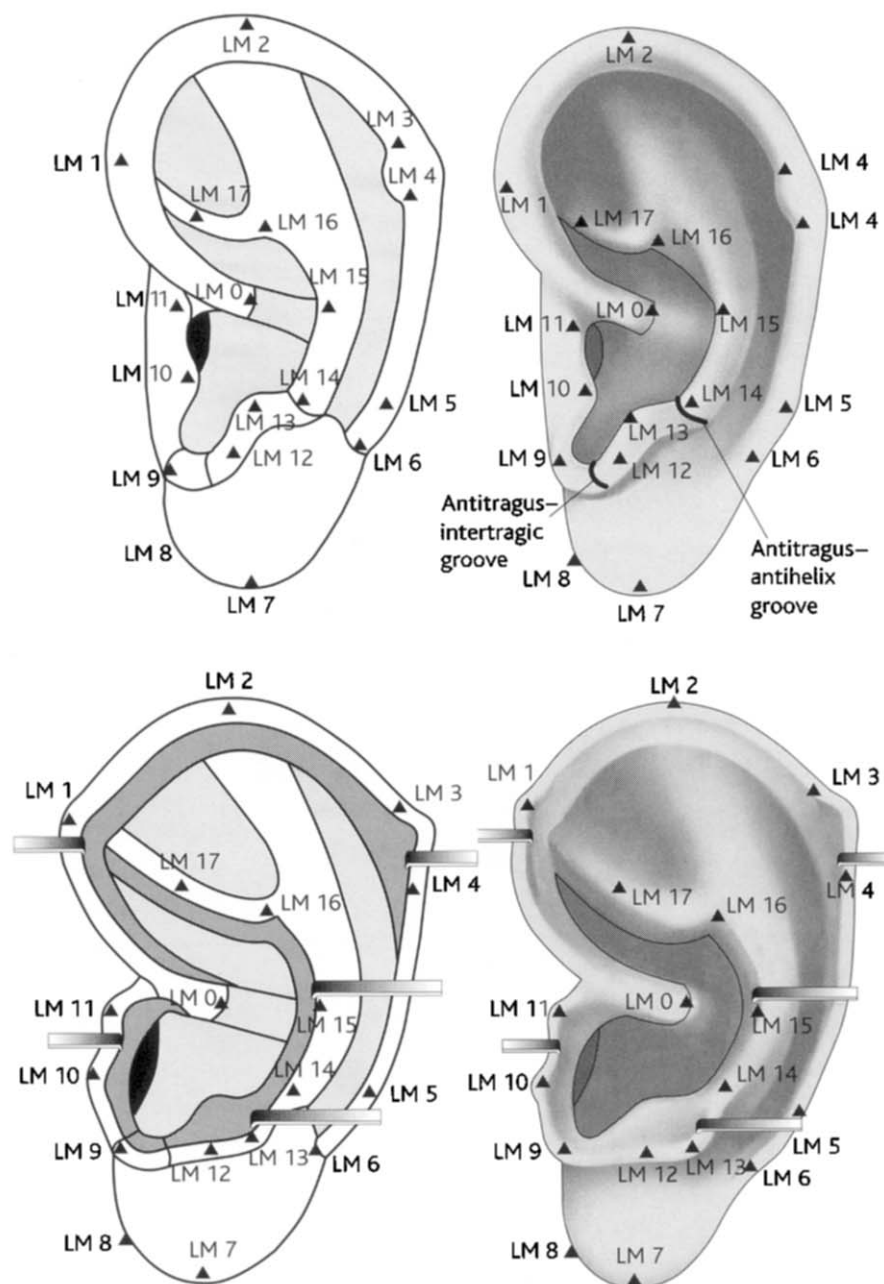


Figure 3.12 The location of auricular landmarks on the external ear are represented in a surface view and a hidden view.

Continuing up the helix to the top of the ear is LM 2. The next two landmarks, LM 3 and LM 4, are two notches that define the uppermost and lowermost boundaries of Darwin's tubercle. This bulge on the outer helix is quite distinctive in some persons, but it is barely visible in others. Following the peripheral helix tail downwards towards the ear lobe, LM 5 occurs where the helix takes a curving turn and LM 6 is found where the cartilaginous helix meets the soft fleshy lobe. The bottom of the ear, which follows a straight line from LM 2, at the ear apex, through LM 0, has been designated LM 7. The junction of the ear lobe to the lower jaw is labeled LM 8. The intertragic notch has already been distinguished as a separate region of the ear and is identified as LM 9. Higher on the auricle, there are two prominent protrusions or tubercles on the tragus, which have been labeled LM 10 and LM 11. There are two comparable protrusions on the antitragus, referred to as LM 12 and LM 13. The landmark LM 13 is distinguished as the apex of the antitragus. Above the antitragus-antihelix groove there is a protruding knob on the base of the antihelix tail which has been labeled LM 14. Following the central side of the antihelix tail up to the antihelix body, there is a sharp angle which divides the tail and body of the antihelix, which is labeled LM 15. Continuing upward, along the curving central side of the antihelix body, a distinct notch is found,

LM 16, which indicates the beginning of the flat, ledged-shaped inferior crus of the antihelix. The final landmark, LM 17, occurs at a notch which divides the peripheral and central halves of the antihelix inferior crus. This notch represents the sciatic nerve and is the auricular point used to treat sciatica and low back pain.

LM 0 – Ear center: A distinct notch is found at the most central position of the ear, where the horizontal concha ridge meets the vertically rising helix root. It can be detected easily with a fingernail or a metal probe. LM 0 is the most common landmark to reference other anatomical regions of the auricle. Reactive ear points on the peripheral helix rim are often found at 30° angles from a line connecting LM 0 to the auricular point which corresponds to the area of body pathology. This region of the helix root represents the autonomic solar plexus and the umbilical cord, bringing any body dysfunctions towards a balanced state.

LM 1 – Helix insertion: The region of the ear where the helix root separates from the face and crosses over the inferior crus of the antihelix. The helix root, which extends from LM 0 to LM 1, represents the genital organs. The external genitalia are found on the external surface of the helix root and internal genital organs are found along the hidden surface of the internal helix root.

LM 2 – Apex of helix: The most superior point of the ear is called the apex and lies along a line that is vertically above LM 0. This point represents functional control of allergies and is the point pricked for blood-letting to dispel toxic energy.

LM 3 – Superior Darwin's tubercle: The notch immediately superior to the auricular tubercle, separating Darwin's tubercle from the superior helix above it. This region has points for the treatment of anti-inflammatory reactions and tonsillitis.

LM 4 – Inferior Darwin's tubercle: The notch immediately inferior to the auricular tubercle, dividing Darwin's tubercle from the helix tail below it. On the more peripheral surface of this protruding landmark, there is a crevice in the cartilage which separates the superior helix from the helix tail. The helix tail extends from LM 4 down to LM 5, representing the spinal cord.

LM 5 – Helix curve: The helix tail curves centrally and inferiorly toward the lobe. This area represents the cervical spinal cord.

LM 6 – Lobular-helix notch: A subtle notch where cartilaginous tissue of the inferior helix tail meets the soft, fleshy tissue of the lobe. This area represents the brainstem medulla oblongata.

LM 7 – Base of lobe: The most inferior point of the lobe lies vertically below a straight line passing through LM 2, LM 0 and LM 7. It represents inflammatory problems.

LM 8 – Lobular insertion: The most inferior point of the lobe that attaches to the jaw. The position of this landmark varies considerably. In some people, LM 8 is inferior to LM 7, whereas in other individuals, LM 8 is superior to LM 7. This region represents the limbic system and cerebral cortex. It affects nervousness, worry, anxiety and neurasthenia.

LM 9 – Intertragic notch: The curving notch which divides the tragus from the antitragus. It represents pituitary gland control of hormones released by other endocrine glands.

LM 10 – Inferior tragus protrusion: The protruding knob on the lower tragus, opposite the top of the antitragus. It represents adrenal glands and is used in the treatment of various stress related disorders.

LM 11 – Superior tragus protrusion: The protruding knob on the upper tragus, opposite to the helix root. It affects thirst and water regulation.

LM 12 – Antitragus protrusion: The protruding knob at the base of the 'Inverted L' of the curving ridge of the antitragus, superior to the lobe. It represents the forehead of the skull and is used for the treatment of headaches.

LM 13 – Apex of antitragus: The protruding knob at the top of the curving ridge of the antitragus, opposite to LM 12. It represents the temples of the skull and is used for the treatment of migraine headaches and for asthma.

LM 14 – Base of antihelix: A round knob at the base of the antihelix tail, rising above the antitragal-antihelix groove. This groove divides the peripheral antitragus from the antihelix tail. The knob at LM 14 represents the upper cervical vertebrae near the skull. The antihelix tail,

which extends from LM 14 up to LM 15, represents all seven cervical vertebrae and is used in the treatment of neck pain.

LM 15 – Antihelix curve: A slight notch that divides the central antihelix body from the antihelix tail. This landmark is located above the concha ridge, horizontally across from LM 0, and divides the lower cervical vertebrae from the upper thoracic vertebrae. The antihelix body, which extends from LM 15 up to LM 16, represents all 12 thoracic vertebrae and is used for treatment of upper back pain.

LM 16 – Antihelix notch: A distinct notch which divides the flat curving ledge of the antihelix inferior crus from the antihelix body. This notch divides the somatotopic representation of the lower thoracic vertebrae from the upper lumbar vertebrae. The peripheral inferior crus of the antihelix is used for the treatment of low back pain.

LM 17 – Midpoint of inferior crus: This notch on the top surface of the inferior crus of the antihelix divides the inferior crus into two halves. This notch separates the lower lumbar vertebrae from the upper sacral vertebrae. This landmark was the ear point used for the treatment of sciatica, first identified by Dr Nogier, that led to the discovery of the inverted fetus somatotopic map on the ear.

3.10 Anatomical relationships of auricular landmarks

Auricular quadrants: Two interconnecting straight lines can be drawn which form a cross dividing the ear into four equal quadrants, with LM 0 at its center (Figure 3.13A). A vertical line can connect landmarks LM 2, LM 0, LM 13 and LM 7. A horizontal line can connect the landmarks LM 11, LM 0, and LM 15. The actual horizontal level of the ear depends upon the vertical orientation of the person's head, which can be held either slightly forward or bent slightly back. For the purposes of these ear diagrams, the horizontal level is set relative to its perpendicular relationship to the vertical line which runs from LM 2 to LM 7.

Auricular grid coordinates: Subdivisions of approximately one centimeter square allow for the linear division of the whole surface of the external ear into nine columns, labeled 1–9, and 14 rows, labeled A–N in Figure 3.13A. The width and length of an average ear are shown in Figure 3.13B as going from 0–45 cm across when progressing from medial to peripheral auricular regions and going from 0–70 cm down when progressing from superior to inferior areas of the external ear.

3.11 Standard dimensions of auricular landmarks

To substantiate the relative proportions of the standardized ear chart used in this work, the landmark locations on the external ears of 134 volunteers were measured to estimate the relative distances between landmarks. Volunteers were recruited by students at two acupuncture schools in Southern California. Eighteen landmark points were marked with a felt pen and multiple measurements were made of the distances between two sets of landmarks (see Figures 3.14, 3.15). The means, standard deviations and ranges of the measurements were then computed. Analyses of variance and correlation coefficients between the distances between specific landmarks were also performed. In addition, measurements of the width and length of the head, hand and foot were also recorded. The height of the head was measured from the chin to the top of the forehead, whereas the width of the head was designated as the distance between the ears. The length of the hand was computed between the wrist and the middle finger, while the width of the hand was measured between the thumb and the little finger. The length of the foot was assessed between the heel and the longest toe, and the width of the foot was measured between the big toe and the little toe. All of these measurements were used to determine the consistency of using the auricular zone system described in this paper with actual persons.

The sample of 134 volunteers contained equal numbers of male and female subjects, with a mean average age of 39.7 years (SD = 14). The ethnic frequency of these participants consisted of 96 Caucasians (71.6%), 26 Asians (19.4%), 7 Hispanics (5.2%), and 5 blacks (3.7%). According to the U.S. Census Bureau for 1999, the relative representation of these ethnic groups in California would be 49.9% Caucasian, 11.4% Asian, 31.6% Hispanic, and 6.7% black (Nelson & O'Reilly 2000). The overrepresentation of whites and Asians in this sample probably reflected the social network of students attending acupuncture colleges in the Los Angeles area, from whom volunteers for this study were recruited. It was not intended that the external ears measured in this

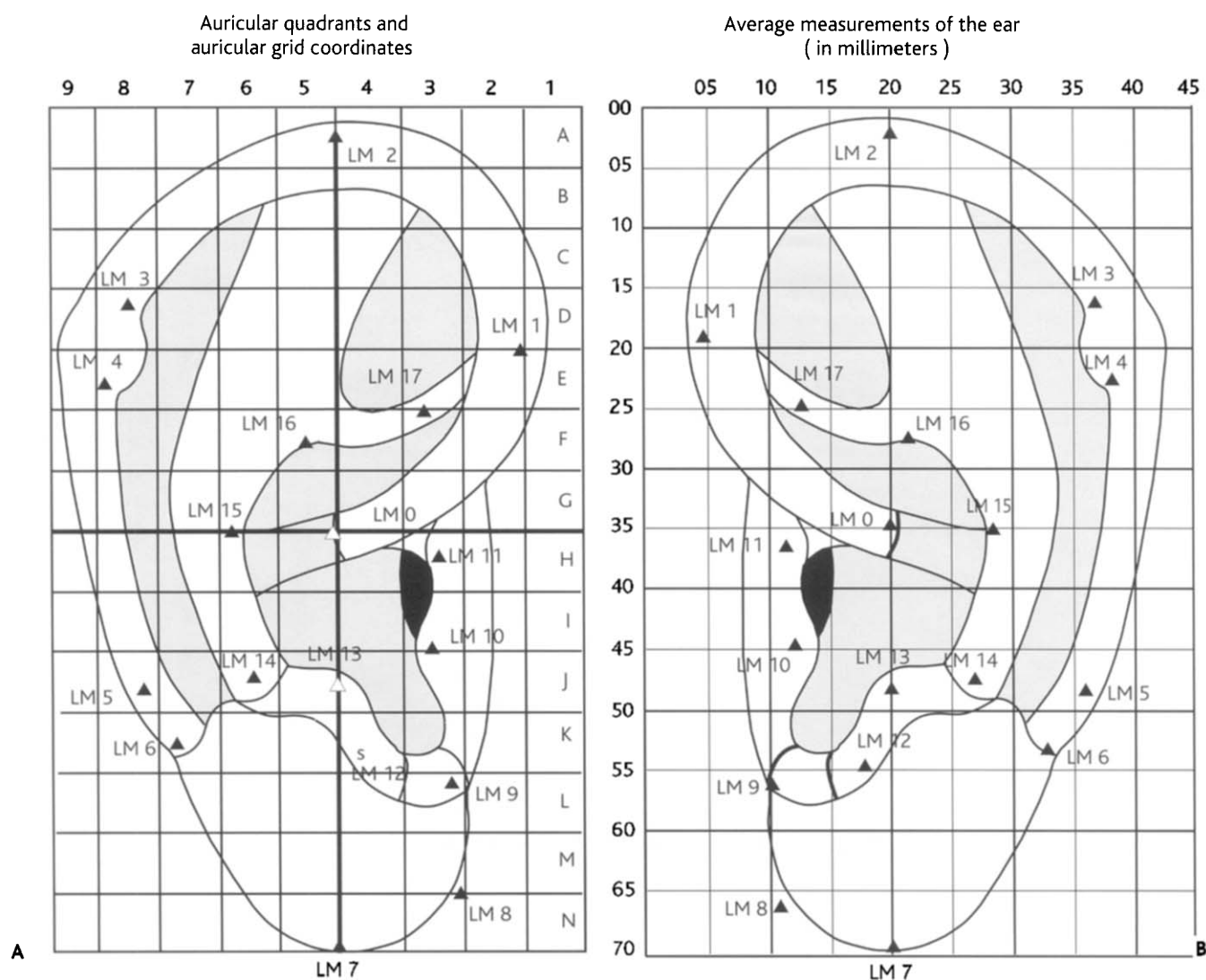


Figure 3.13 The external ear divided into quadrants and x-y grid coordinates (A). Horizontal sections are numbered 1 to 9 going from center to periphery, while vertical sections are labeled A to N from superior to inferior edges of the ear. The averaged value of actual measurement (in millimeters) of the external ears of different individuals is also shown (B).

study were representative of the general population, only that there be a large cross sampling of the auricles of different individuals.

Ears from two such participants are shown in Figure 3.16, whereas the accumulated mean data from the multiple observations of different auricles are presented in Box 3.1. This indicates the relative mean distances between each landmark and the central landmark LM 0, and between each landmark and the subsequent landmark. The set of measurements provides an overall indication of the shape and size of different ears. Acupuncture practitioners and students asked to identify the 18 landmarks on these 134 participants were readily able to distinguish each landmark on each subject, indicating that these auricular demarcations are reliably observed on most individuals. The relatively low standard deviations for these measurements suggests that the landmarks examined on many different ears is a reliable procedure for recognizing the specific areas of the auricle. A series of analyses of variance (ANOVA) computations compared auricular measurements between male and female participants. Correlation coefficients were also obtained across all subjects for all measurements.

In his *Treatise of auriculotherapy*, Nogier (1972) reported that the vertical axis of the auricle varied from 60 to 65 mm and that the horizontal axis varied between 30 and 35 mm. Slightly larger measurements were found in the present study. The mean height of the auricle, measured between the top of the ear apex at LM 2 and the bottom of the ear lobe at LM 7, was 68.4 mm. The mean width of the auricle, measured between the helix root as it leaves the face at LM 1 and the most

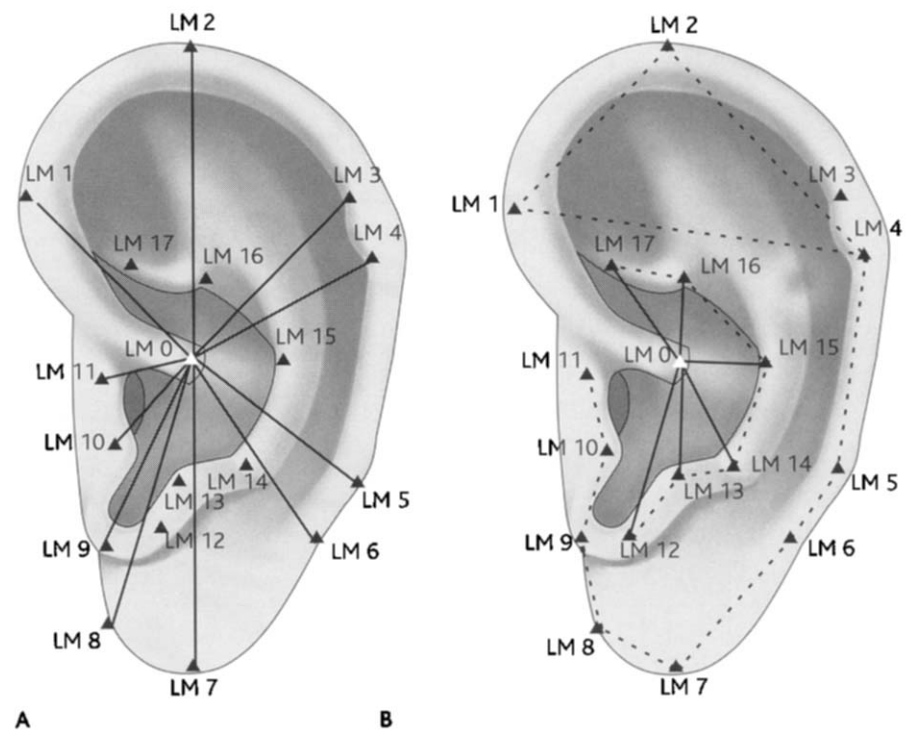


Figure 3.14 Specific lines of measurement between auricular landmarks indicate the basis for data collected from participants in the ear measurement study. Connections between LM 0 and peripheral landmarks (A); connections between LM 0 and central landmarks, and between successive pairs of landmarks (B).

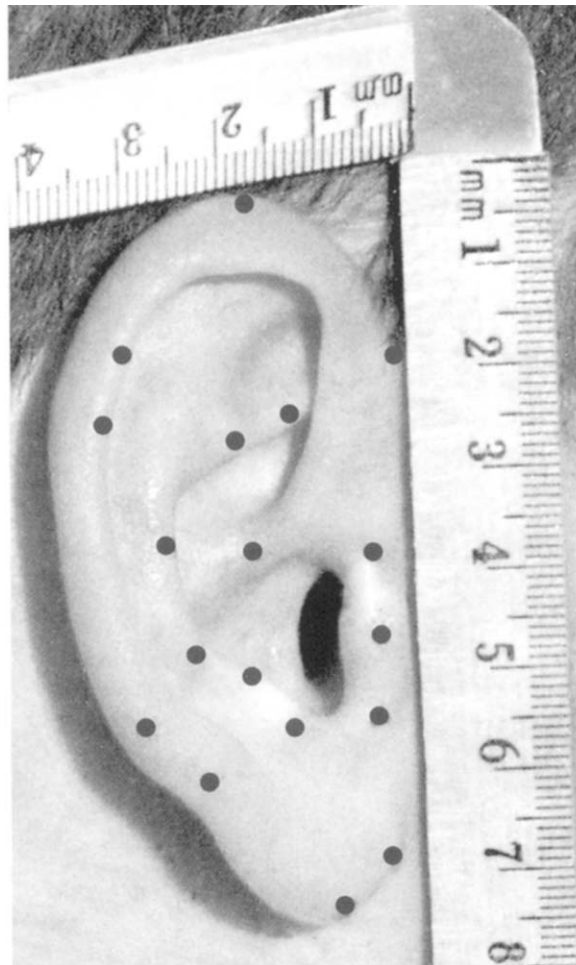


Figure 3.15 A millimeter ruler was used to measure the distance between auricular landmarks.

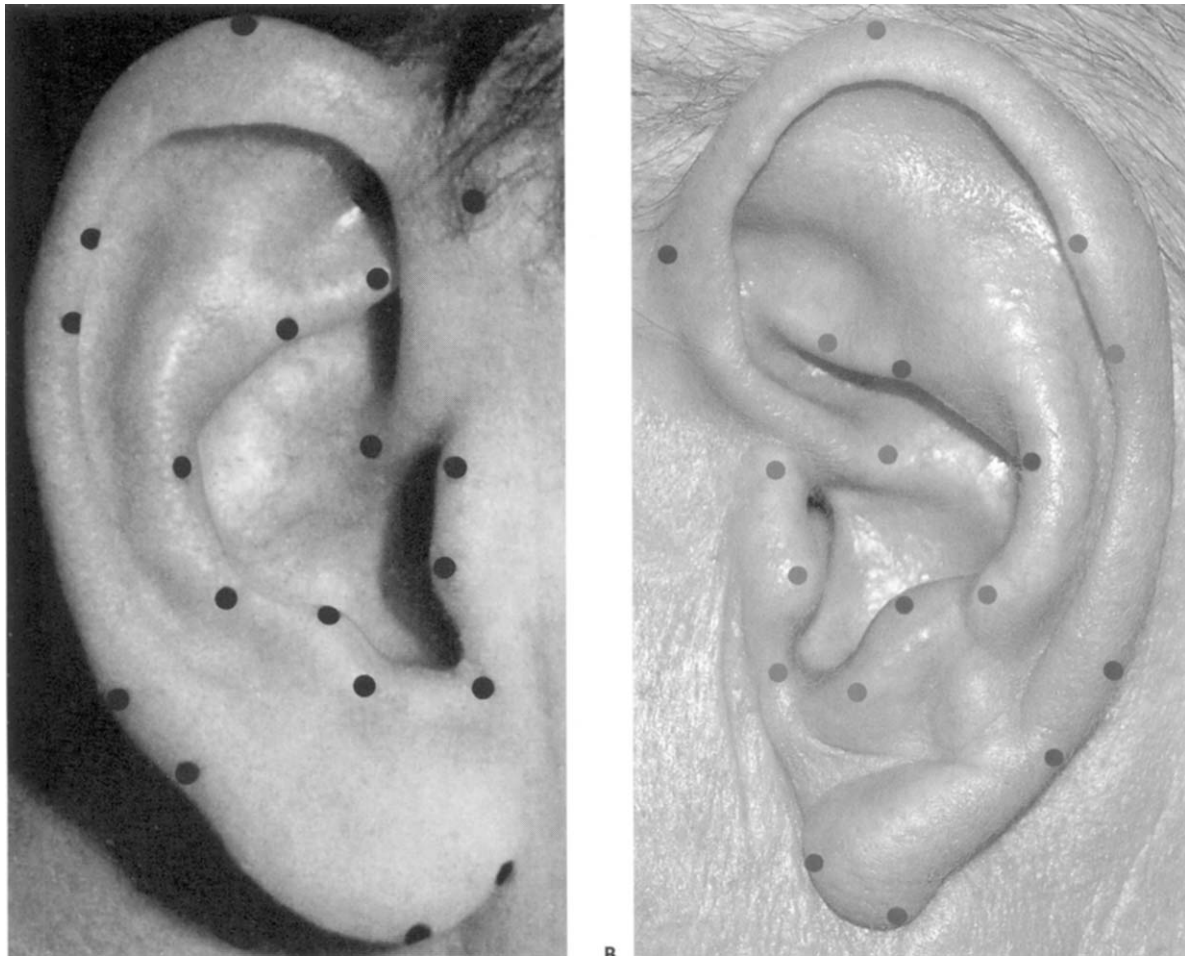


Figure 3.16 Photographs of external ears from two people show the consistent location of auricular landmarks despite variations in the actual pattern of different ears.

peripheral part of Darwin's tubercle at LM 4, was 33.8 mm. In the assessment of the length and width of the head, hand, and foot, males were found to have significantly larger measurements than females ($p < 0.05$). This result was not surprising, since men are typically larger than women. Men also have significantly larger external ears than women, and all ear measurement segments were larger in males than in females, with statistically significant differences found for the distances of LM 1 to LM 4 and LM 2 to LM 7. The relationship of the size of different regions was also examined. Only correlation coefficients greater than 0.40 were considered meaningful. The length of the foot was significantly correlated with the length of the hand ($r = 0.44$) and the width of the hand ($r = 0.42$). The width of the foot was also correlated with the height of the head ($r = 0.42$). Curiously, the length of these body areas was not as highly correlated with the width of their respective body region. For example, there was only a small correlation ($r = 0.39$) between the length of the foot and the width of the foot, even less between the length and width of the hand ($r = 0.34$), and was lowest between the height and width of the head ($r = 0.22$). Of all the auricular measurements, the only distances to correlate significantly with the foot, hand, or head were the correlations between the width of the head and the distance between LM 0 and LM 12 ($r = 0.41$) and the correlation of the width of the head with the distance between LM 0 and LM 17 ($r = 0.42$).

The auricular measurements that correlated best with each other were of the distances between the center of the auricle, LM 0, to the more peripheral regions of the ear, LM 1 to LM 7. Significant correlations that ranged from $r = 0.44$ to $r = 0.89$ were found for the measurements of LM 0 to LM 1, LM 0 to LM 2, LM 0 to LM 3, LM 0 to LM 4, LM 0 to LM 5, LM 0 to LM 6, LM 0 to LM 7, LM 0 to LM 8, and LM 0 to LM 12. The greatest number of significant correlations between the distances of two auricular landmarks were found for the distances of LM 0 to LM 2, LM 0 to LM 7, and LM 0 to LM 12. The more central landmarks on the ear probably had fewer significant correlations to other auricular areas because they were smaller in length and thus did not vary as

Box 3.1 Measurements between auricular landmarks (LM)

Landmarks	Mean distance in mm	SD	Landmarks	Mean distance in mm	SD
LM 0–LM 1	22.6	5.3	LM 1–LM 2	22.6	5.5
LM 0–LM 2	32.5	5.0	LM 2–LM 4	26.7	6.8
LM 0–LM 3	27.9	4.8	LM 4–LM 5	28.6	6.3
LM 0–LM 4	25.1	5.2	LM 5–LM 6	9.2	3.8
LM 0–LM 5	23.0	4.2	LM 6–LM 7	20.8	4.8
LM 0–LM 6	25.6	5.0	LM 7–LM 8	10.2	3.7
LM 0–LM 7	35.9	5.3	LM 8–LM 9	10.9	4.1
LM 0–LM 8	32.3	5.5	LM 9–LM 10	12.2	4.6
LM 0–LM 9	23.9	4.9	LM 10–LM 11	8.7	2.7
LM 0–LM 10	14.1	2.7	LM 12–LM 13	8.3	2.5
LM 0–LM 11	10.7	2.9	LM 13–LM 14	6.5	2.4
LM 0–LM 12	19.5	3.5	LM 14–LM 15	10.8	3.8
LM 0–LM 13	13.4	2.5	LM 15–LM 16	14.0	4.2
LM 0–LM 14	12.3	2.8	LM 16–LM 17	7.7	2.7
LM 0–LM 15	11.0	2.6			
LM 0–LM 16	10.8	2.8			
LM 0–LM 17	12.4	3.9			
LM 2–LM 7	68.4	10.2			
LM 1–LM 4	33.8	6.3			
			Ear height	68.4	10.2
			Ear width	33.8	6.3
			Head height	193.3	22.7
			Head width	163.9	28.4
			Hand length	171.8	27.9
			Hand width	101.9	16.7
			Foot length	235.8	30.8
			Foot width	93.5	14.5

much from one person to the next. Of the distances between sequential auricular landmarks, only the distance of LM 2 to LM 4 was significantly correlated with more than four other measurements. The purpose in obtaining these auricular measurements was primarily to demonstrate that these specific landmarks on the external ear can be reliably observed on many individuals and are as consistently found as the relationship between the fingers and base of the hand or between the toes and heel of the foot. While the external ears do vary considerably from one person to the next, there is a general consistency in the distinctive pattern of the auricle and the relative size of different anatomical sections.

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4.1 Overview of the auricular zone system

In order to provide a systematic method for locating the precise position of a point on the ear, a zone system was developed which uses the proportional subdivision of major anatomical regions of the auricle. A set of two letters and a number represent each ear zone, in concurrence with guidelines established by the World Health Organization acupuncture nomenclature committee (Akerle 1991; WHO 1990b). This zone system is modified from the auricular zone system first developed in 1983 at the UCLA Pain Management Center (Oleson & Kroening 1983b). The original zone system developed at UCLA is shown in Figure 4.1, wherein a single letter was used to designate each area of the auricular anatomy and a number designated each subdivision of that area. A different zone system that was suggested by Paul Nogier (1983) is presented in Figure 4.2. The Nogier zone system divided the whole auricle into a rectangular grid pattern of rows and columns. The capital letters A to O identified the horizontal axis, whereas the lower case letters a to z indicated the vertical axis. While such a grid pattern is simple to use on flat, two dimensional paper, it is not easily adaptable to the three-dimensional depths of the auricle. The curving contours of the ear do not conform well to the configuration of basic squares and there is no means for indicating hidden or posterior regions of the auricle. Moreover, as the ear measurements presented in Chapter 3 indicated, there are marked variations in the size of different areas of the auricle, even though the relative proportions remain the same. The distance from landmark 0 to the ear apex at LM 2 ranged from 20 mm to 50 mm, and the measured lengths of the subjects' ear lobes

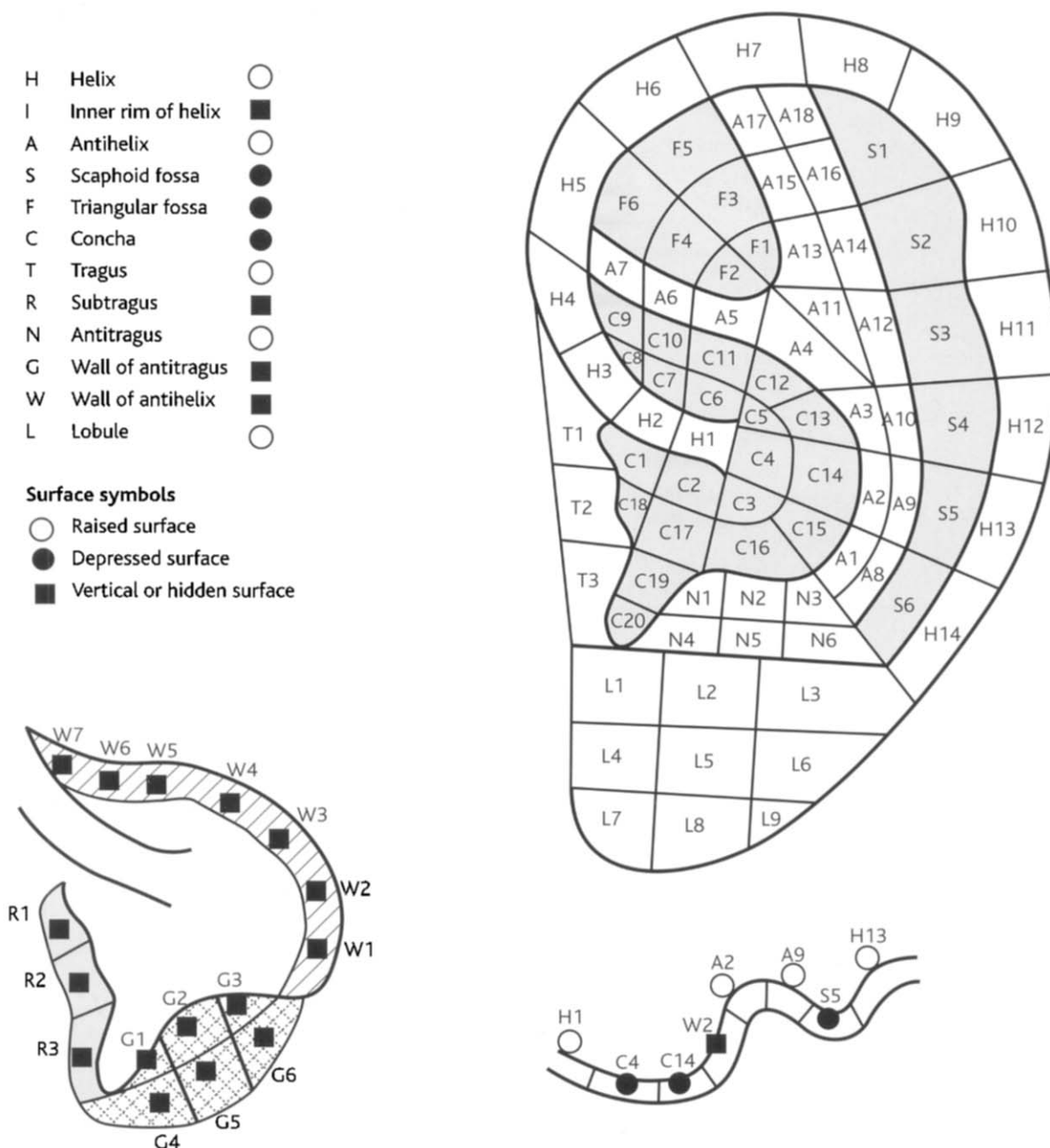


Figure 4.1 The original auricular zone system developed in the 1980s at UCLA subdivided each anatomical region of the external ear referenced with a single letter and a number.

varied between 15 mm and 45 mm. A gridwork of rows and columns of fixed length can not easily accommodate such discrepancies in size. The auricular zone system developed at UCLA designated each section of the ear based upon the proportional size of the auricular region of each individual, not the absolute size of the whole ear. The revised UCLA nomenclature system (Oleson 1995) shown in Figure 4.3 provides a consistent logical order for the numbering of each anatomical subdivision of the external ear. The lowest numbers correspond to the most inferior and most central zone of that anatomical part of the ear. The numbers ascend from 1 to 2 to 3, etc., progressing from inferior to superior zones of that anatomical area and from central to peripheral zones. In international communications about the location of ear acupoints, the region of the ear referred to can be listed by its anatomical zone designation, rather than its organ correspondence.

4.2 International standardization of auricular nomenclature

The first concerted effort to create a standard terminology for human anatomy was developed by a group of German scientists in 1895 (International Congress of Anatomists 1977). The *Basle nomina*

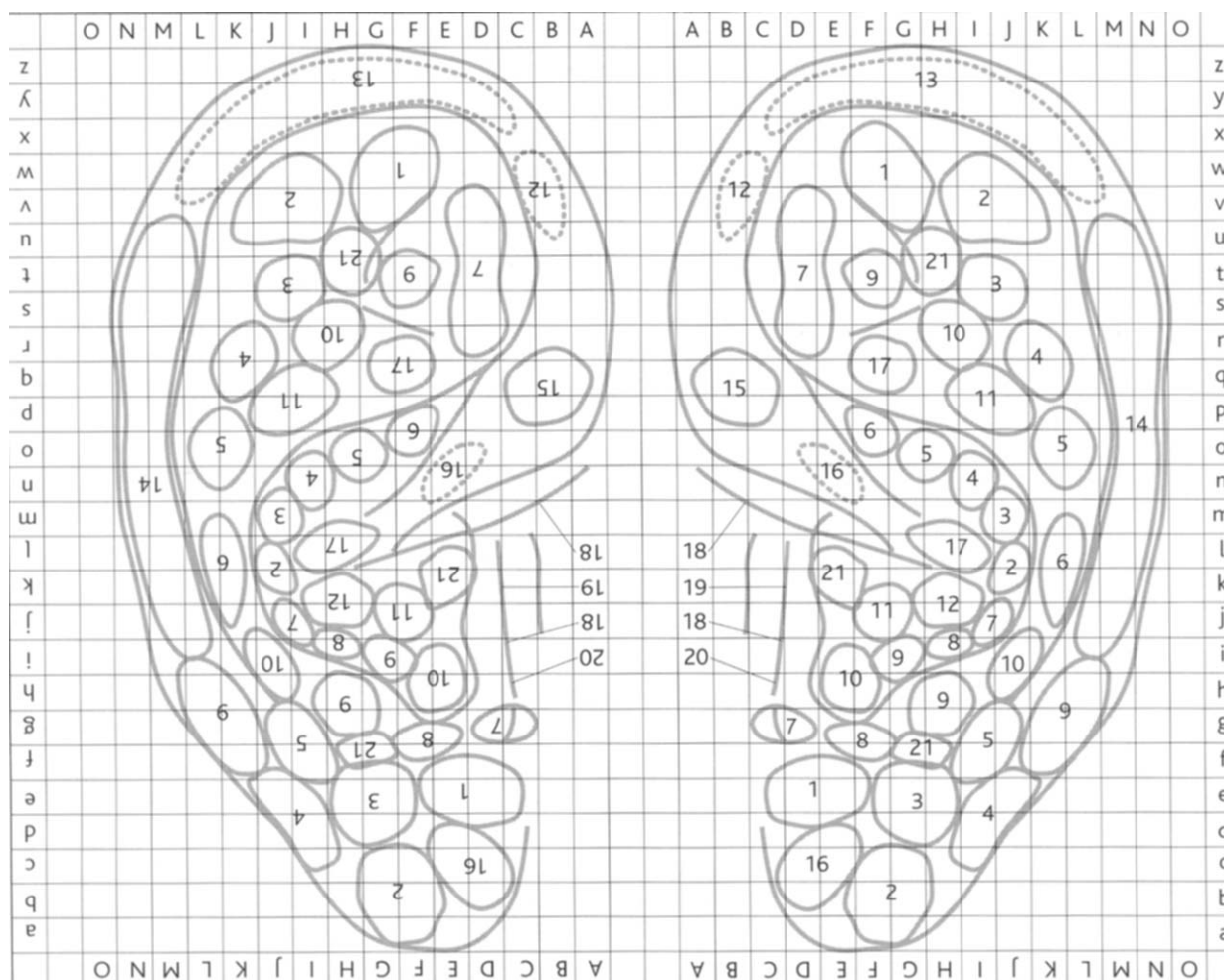
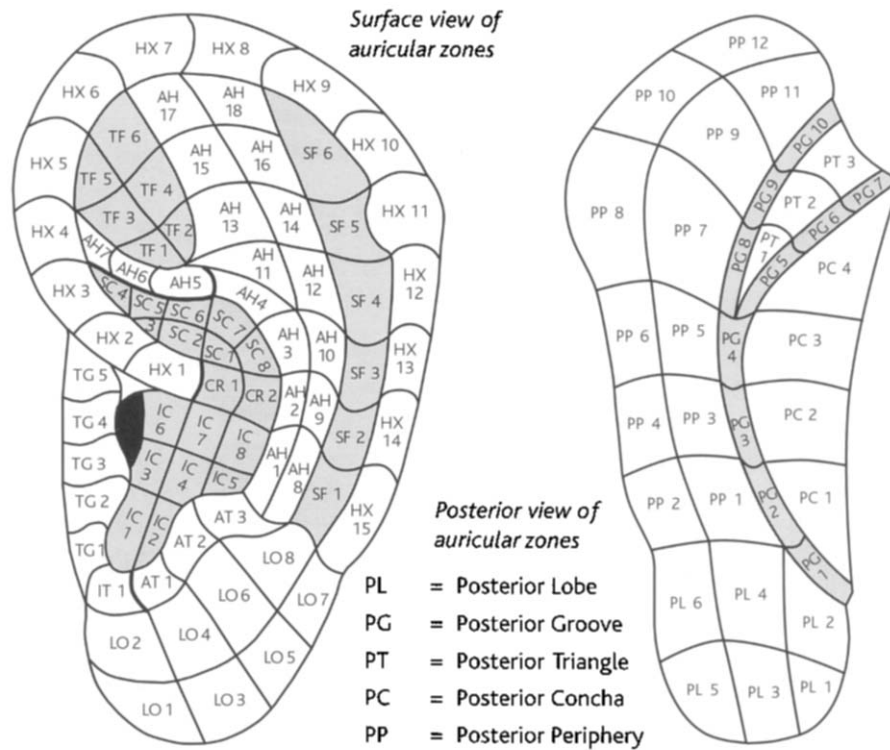


Figure 4.2 The auricular zone system first proposed by Dr Paul Nogier: a rectangular grid referenced with capital letters for the horizontal axis and lower case letters for the vertical axis. (Reproduced from Nogier 1983, with permission.)

anatomica (BNA) was first adopted in Germany, Italy, USA, and later in Great Britain. In 1950, an international congress of anatomists met in Oxford, England, to discuss revisions in the earlier anatomical nomenclature system. A new *Nomina anatomica* was accepted by the Sixth International Congress of Anatomists meeting at Paris in 1955. Most phrases were adopted from the original BNA, with all anatomical terms derived from Latin, employing words that were simple, informative and descriptive. Changes to *Nomina anatomica* were made by subsequent nomenclature committees in an attempt to simplify unnecessarily complex or unfamiliar terms. While it was the strong opinion of the international nomenclature committee that only official Latin terms should be employed in scientific publications, it was also recognized that many scientific data-retrieval systems accept vernacular anatomical terms. English words in particular are commonly used in computer searches since English is currently the most widely used scientific language at international meetings and on the internet.

The World Health Organization (WHO) sought to form an international consensus on the terminology used for acupuncture points by holding a series of international meetings of distinguished acupuncturists. Dr Olayiwola Akerele (1991) presented the findings by the WHO working group that had been convened to specify the criteria for the standardization of acupuncture nomenclature. The first WHO working group meeting on this topic was held in Manila, Philippines, in 1982, with general acceptance of a standard nomenclature for 361 classical acupuncture points. Acupuncture programs in Australia, China, Hong Kong, Japan, Korea, New Zealand, Philippines and Vietnam adopted this meridian acupuncture system. The conclusions of the WHO regional working group were published in 1984 as the *Standard acupuncture nomenclature* (Wang 1984).

Surface, hidden, and posterior auricular zones



Hidden view of auricular zones

Auricular zone codes

- HX = Helix
- AH = Antihelix
- LO = Lobe
- TG = Tragus
- AT = Antitragus
- IT = Intertragic Notch
- SF = Scaphoid Fossa
- TF = Triangular Fossa
- SC = Superior Concha
- IC = Inferior Concha
- CR = Concha Ridge
- CW = Concha Wall
- ST = Subtragus
- IH = Internal Helix

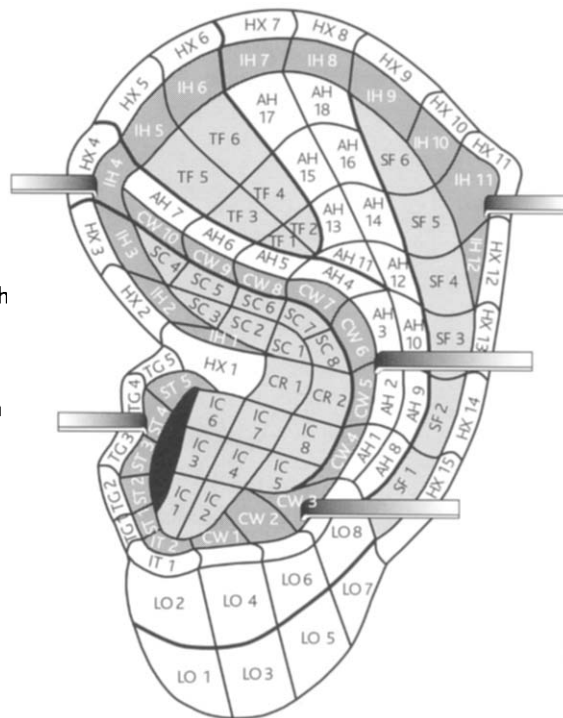


Figure 4.3 Revisions of the auricular nomenclature system originally developed by Oleson were based upon the recommendations of the 1990 WHO nomenclature committee. Different zones are referenced with two letters and a number. The progression of numbers goes from bottom to top and from center to periphery.

Alphanumeric codes to designate different acupuncture points were labeled with two letter abbreviations (Helms 1990). Thus LU was used for the Lung meridian and LI for the Large Intestines meridian. Some authors use only one letter to represent a meridian, such as P for the Pericardium meridian instead of PC, or H for Heart meridian instead of HT. The least agreed upon English designation was the term Triple Energizer and its abbreviation TE. The Han character for this meridian is often translated as Triple Warmer or Triple Heater, but some members of the nomenclature committee felt that this meridian should have been left with its Chinese name, San Jiao. Consequently, this meridian channel is now abbreviated SJ. Representatives from each country who were at this meeting were encouraged to communicate to journals, textbook publishers and universities in their country to use only the official WHO two letter designations for zang-fu meridians and for acupuncture points.

The second WHO working group was held in Hong Kong, in 1985 (WHO 1985). Representatives reported general acceptance of the Standard Acupuncture Nomenclature from nine Asian countries. Revisions were suggested for standardization of extra meridian points and for new points. Two documents were presented at this WHO meeting to guide standardization of ear acupuncture nomenclature, the text *Ear acupuncture* by Helen Huang (1974) and a journal article written by myself and Dr Richard Kroening (Oleson & Kroening 1983a). However, all decisions about auricular acupuncture nomenclature were deferred to a later meeting. The third WHO Working Group met in Seoul, Korea (WHO 1987). Having already arrived at a consensus regarding classical meridian points, the final area of discord was with the nomenclature for auricular points. As the meeting was organized by the WHO Regional Office for the Western Pacific, most of the representatives were from Asia. Only Dr Raphael Nogier of France represented a European perspective. Standard nomenclature was adopted for 43 auricular points, each point designated by one or two letters and by a number. In addition to the standard nomenclature accepted for 43 auricular points identified as Category 1 points, another 36 ear points were identified as Category 2 points that needed further study for verification. All ear points were preceded by the letters MA to designate Microsystem Auricular. For example, MA-H 1 indicated the location for the Ear Center point on the helix and MA-TF 1 indicated the location for the Shen Men point in the triangular fossa. The only other approved designation for a microsystem was the designation MS for Microsystem Scalp. No agreement was made on the two main schools of auricular points, the one initiated by Paul Nogier of France and the other one utilized by Chinese practitioners for ear acupuncture.

The final WHO General Working Group on Auricular Acupuncture Nomenclature met in Lyons, France (WHO 1990a). The meeting was led by Raphael Nogier and Jean Bossy of France, by C.T. Tsiang of Australia, and by Olayiwola Akerele representing the World Health Organization. International participants at this meeting included representatives from Australia, Austria, China (PR), Columbia, Egypt, Finland, France, Germany, Italy, Japan, Korea (DPR), New Zealand, Norway, Spain, Switzerland, Venezuela and the USA. Hiroshi Nakajima, Director-General of the World Health Organization, proclaimed to the gathering that 'auricular acupuncture is probably the most developed and best documented, scientifically, of all the microsystems of acupuncture and is the most practical and widely used.' He further acknowledged that 'unlike classical acupuncture, which is almost entirely derived from ancient China, auricular acupuncture is, to a large extent, a more recent development that has received considerable contributions from the West.'

In his personal address to the audience, Paul Nogier observed that:

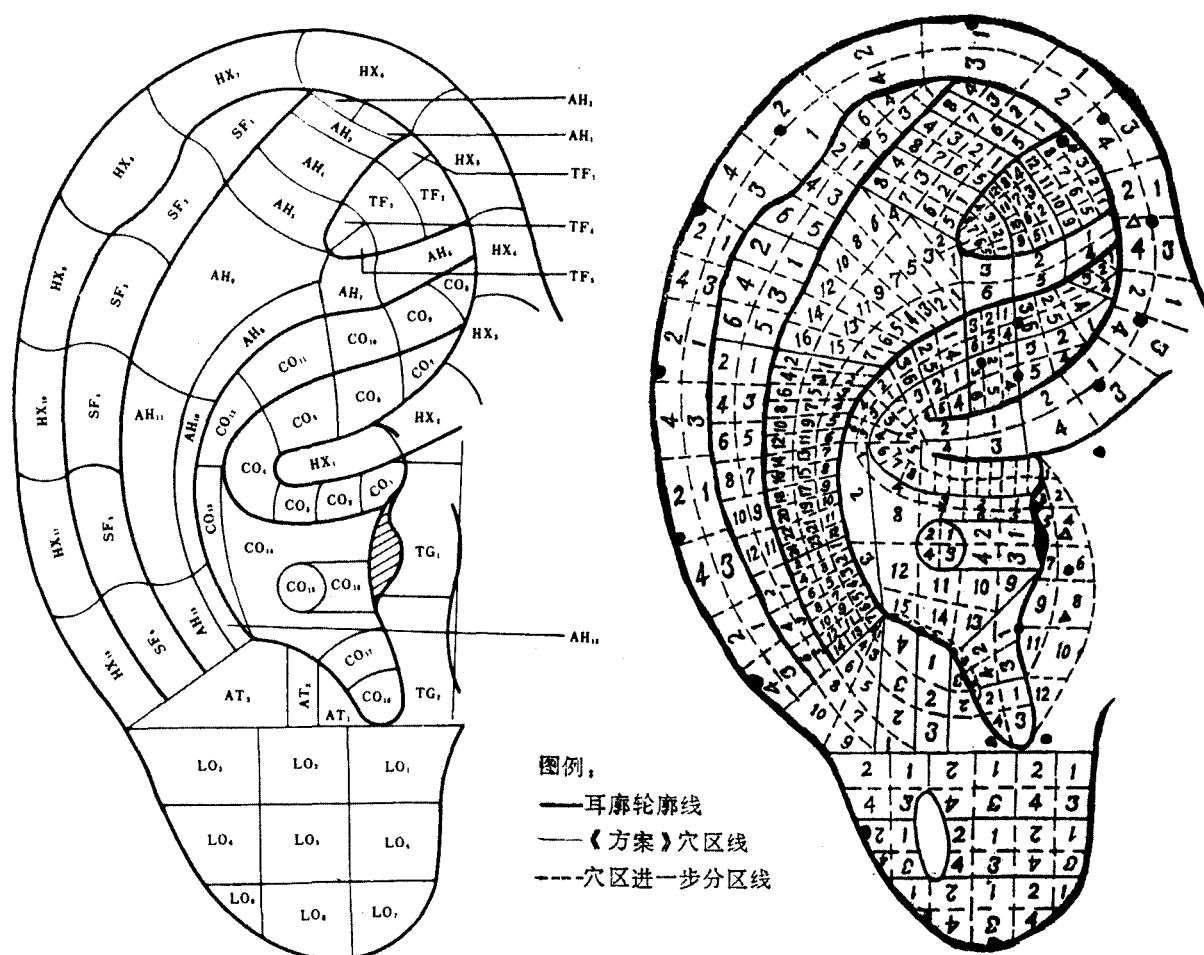
the studies by Dr Niboyet have proved that the ear points, like the acupuncture points, can be detected electrically. We also know from the studies by Professor Durinian of the USSR that the auricle, by virtue of its short nerve links with the brain, permits rapid therapeutic action that cannot otherwise be explained. The time has come to identify each major reflex site in the auricle, and I know that some of you are busy on this. This identification seems to me to be essential so that there can be a common language in all countries for the recognition of the ear points.

Three qualities were emphasized:

- (1) ear points that have international and common names in use;
- (2) ear points that have proven clinical efficacy;
- (3) ear points whose localization in the auricular area are generally accepted.

The group agreed that each anatomical area of the ear should be designated by two letters, not one, to conform to the body acupuncture nomenclature. The abbreviation for helix became HX rather than H and the designation for lobe became LO rather than L. Terminology was also added for points on the back of the ear, each area to begin with the initial letter P, as in PP for posterior periphery, and PL for posterior lobe. The Chinese have also developed a revised auricular zone system based upon the recommendations of the 1990 WHO auricular nomenclature committee (Zhou 1995, 1999; see Figure 4.4).

The primary difficulty at this WHO nomenclature conference was the discrepancy between the Chinese and European locations for an ear point. For example, the Knee point is localized on the superior crus of the antihelix in the Chinese system and in the triangular fossa in the European system. No concurrent agreement on this issue was determined. The group did adopt a standardized nomenclature for 39 auricular points, but decided that another 36 ear points did not as yet meet the three working criteria. The Category 1 and Category 2 ear points described by the 1987 Working Group from the Western Pacific Division of the WHO are respectively similar to the 'agreed upon' and 'not agreed upon' auricular points listed by the 1990 WHO meeting. The two lists of ear points are respectively presented in Tables 4.1 and 4.2. During the course of discussions, many divergent points of view emerged concerning both the localization and terminology of auricular points. After a free exchange of ideas and opinions, the WHO working group agreed that a priority of future activity should be the development of a standard reference chart of the ear. This chart should provide a correct anatomical illustration of the ear, an appropriate anatomical mapping of topographical areas, consultation with experts in anatomy and auricular acupuncture, illustrations of correct zones in relation to auricular acupuncture, and the actual delineation and localization of ear points. A subsequent committee directed by Akerele (WHO 1990b) developed specific anatomical drawings of the ear and specific terminology for the auricle.



附图 1 《耳穴标准化方案》进一步分区的设想示意图

Figure 4.4 The zone system developed in China after the 1990 WHO auricular nomenclature meeting has been described by Dr Li-Qun Zhou (reproduced with permission).

Table 4.1 WHO 1990 standard nomenclature for auricular points, accepted points

Anatomical	Alphanumeric	English name	Pinyin name
Helix	MA-HX 1	Ear Center	Erzhong
	MA-HX 2	Urethra	Niaodao
	MA-HX 3	External Genitals	Waishengzhiqi
	MA-HX 4	Anus	Ganmen
	MA-HX 5	Ear Apex	Erjian
Antihelix	MA-AH 1	Heel	Gen
	MA-AH 2	Ankle	Huai
	MA-AH 3	Knee	Xi
	MA-AH 4	Pelvic Girdle	Tun Kuan
	MA-AH 5	Sciatic nerve	Zuogu shenjing
	MA-AH 6	Autonomic point	Jiaogan
	MA-AH 7	Cervical Vertebrae	Jingzhui
	MA-AH 8	Thoracic Vertebrae	Xiongzhui
	MA-AH 9	Neck	Jing
	MA-AH 10	Thorax	Xiong
Scaphoid fossa	MA-SF 1	Fingers	Zhi
	MA-SF 2	Wrist	Wan
	MA-SF 3	Elbow	Zhou
	MA-SF 4	Shoulder Girdle	Jian
Triangular fossa	MA-TF 1	Ear Shen Men	Ershenmen
Tragus	MA-TG 1	External Nose	Waibi
	MA-TG 2	Apex of Tragus	Pingjian
	MA-TG 3	Pharynx and Larynx	Yanhou
Antitragus	MA-AT		
Intertragic notch	MA-IT		
Inferior concha	MA-IC 1	Lung	Fei
	MA-IC 2	Trachea	Qiguan
	MA-IC 3	Hypothalamic-Pituitary Axis	Neifenmi
	MA-IC 4	Triple Energizer	San Jiao
	MA-IC 5	Mouth	Kou
	MA-IC 6	Esophagus	Shidao
	MA-IC 7	Cardia	Bennen
Superior concha	MA-SC 1	Duodenum	Shi Erzhihang
	MA-SC 2	Small Intestines	Xiaochang
	MA-SC 3	Appendix	Lanwei
	MA-SC 4	Large Intestines	Dachang
	MA-SC 5	Liver	Gan
	MA-SC 6	Pancreas-Gall bladder	Yidan
	MA-SC 7	Ureter	Shunianoguan
	MA-SC 8	Bladder	Panguang
Lobe	MA-LO 1	Eye	Mu

Table 4.2 WHO 1990 standard nomenclature for auricular points, not yet considered

Anatomical	Alphanumeric	English name	Pinyin name
Helix	MA-HX	Internal Genitals	Neishengzhiqi
	MA-HX	Upper ear root	Shangergen
	MA-HX	Lower ear root	Xiaergen
	MA-HX	Root of ear vagus	Ermigen
Antihelix	MA-AH	Toe	Zuzhi
	MA-AH	Lumbosacral Spine	Yaodizhui
	MA-AH	Abdomen	Fu
	MA-AH	Pelvis	Penqiang
Scaphoid fossa	MA-SF	Wind Stream or Occipital Nerve	Fengxi
Triangular fossa	MA-TF	Middle triangular fossa	Jiaowozhong
	MA-TF	Superior triangular fossa	Jiaowoshang
Tragus	MA-TG	Adrenal Gland	Shenshangxian
Antitragus	MA-AT	Subcortex or Thalamus point	Pizhixia
	MA-AT	Apex of Antitragus	Duipingjian
	MA-AT	Central Rim or Brain	Yuanzhong
	MA-AT	Occiput	Zhen
	MA-AT	Temple	Nie
	MA-AT	Forehead	E
Intertragic notch	MA-IT		
Inferior concha	MA-IC	Heart	Xin
	MA-IC	Spleen	Pi
	MA-IC	Stomach	Wei
Superior concha	MA-SC	Kidney	Shen
	MA-SC	Angle of superior concha	Tingjiao
Lobe	MA-LO	Tooth	Ya
	MA-LO	Tongue	She
	MA-LO	Jaw	He
	MA-LO	Eye	Yan
	MA-LO	Internal ear	Nei'er
	MA-LO	Cheek	Mianjia
	MA-LO	Tonsil	Biantaoui
	MA-LO	Anterior Ear Lobe	Chuiqian
Posterior lobe	MA-PL		
Posterior peripheral	MA-PP		
Posterior intermediate	MA-PI	Groove of posterior surface	Erbeigou
Posterior central	MA-PC	Heart of posterior surface	Erbeixin
	MA-PC	Spleen of posterior surface	Erbeipi
	MA-PC	Liver of posterior surface	Erbeigan
	MA-PC	Lung of posterior surface	Erbeifei
	MA-PC	Kidney of posterior surface	Erbeishen

4.3 Anatomical identification of auricular zones

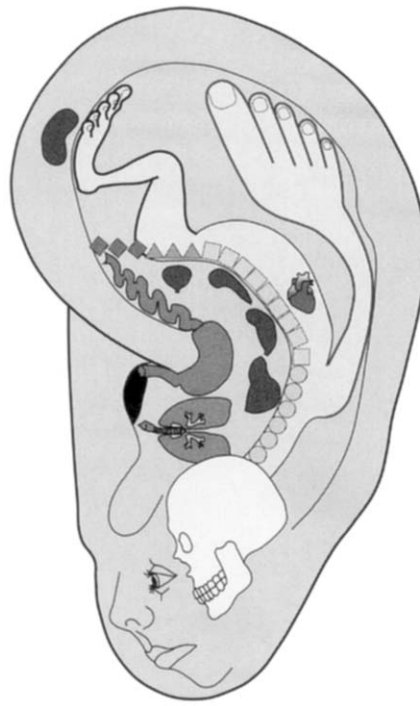
Each auricular zone is based upon the proportional subdivision of the principal anatomical regions, such as the helix and the antitragus. In concurrence with the system established by the 1990 WHO auricular nomenclature meeting, each zone is identified by a two letter abbreviation for each anatomical region and a number indicating that particular subsection of that anatomical area. Auricular zones on the anterolateral and the posterior sides of the ear are shown in Figure 4.5. The lowest numbers for each auricular area begin at the most inferior and most central zone of that anatomical region. The numbers then ascend to higher digits as one progresses to superior and more lateral sections of that anatomical region. The auricular landmarks are useful in distinguishing where some zones end and the next one begins. A depth view of the zones is shown in Figure 4.6.

The first zone of the helix, HX 1, begins at landmark LM 0, then proceeds to higher numbers, HX 2 and HX 3, as one rises to landmark LM 1 higher on the helix root. These numbers continue from HX 4 to HX 7 as one rises even higher to the apex of the auricle, LM 7. The helix numbers progress higher as one descends from the superior helix to the bottom of the helix tail, ending in HX 15. The first zone of the antihelix, AH 1, begins on the central side of the bottom of the antihelix tail, LM 14, then rises to the antihelix body at LM 15, curves around to the inferior crus at LM 16, where the antihelix numbers continue from AH 5 to AH 7. The antihelix numbers continue again on the peripheral side of the antihelix tail, at AH 8, progressing to higher numbers as one ascends higher toward the superior crus, ultimately to AH 18. The deeper valleys of the scaphoid fossa and the triangular fossa are divided into six equal parts. The zones for the scaphoid fossa rise from SF 1 near the ear lobe to SF 6 toward the top of the ear, while the zones for the triangular fossa increase from TF 1 at the lower tip of the triangular fossa to TF 6 toward the top of the ear. A series of five vertical zones divides the tragus, rising from TG 1 near the intertragic notch to TG 5, where the tragus meets the helix root. The landmark LM 10 separates TG 2 from TG 3, while the landmark LM 11 divides TG 3 from TG 4. The antitragus is divided into three zones, beginning with AT 1 at the intertragic notch, rising in number and in location at AT 2, and peripherally at AT 3. There are two zones for the intertragic notch. The zone IT 1 is found higher toward the surface of the auricle, whereas the zone IT 2 occurs on the wall of the intertragic notch, and is vertical to IT 1.

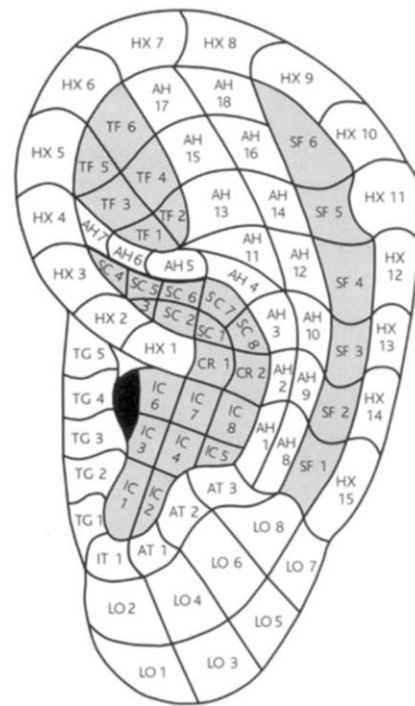
The zones for the inferior concha begin at IC 1 and IC 2 at the intertragic notch. The zone numbers then rise on a second concha row that begins with IC 3 and continues peripherally on the concha floor to IC 5 near the concha wall. Subsequent inferior concha sections are found on a third row which begins at IC 6 below the helix root and progresses peripherally below the concha ridge to IC 8. The zones for the superior concha begin with SC 1 immediately above the central concha ridge and ascend to higher concha regions at SC 4. These values for the superior concha zones then circle back peripherally to SC 8, found above the more peripheral concha ridge. The concha ridge itself is divided into two zones, the central zone CR 1 and the peripheral zone CR 2. The different auricular zones of the posterior auricle each begin with the letter P. They rise from lower to higher numbers as anatomical subdivisions progress from a central to peripheral direction and from an inferior to superior direction. There are different zones for the posterior lobe (PL), the posterior concha (PC), and the posterior periphery (PP), behind the helix rim and the scaphoid fossa. The most prominent zones are for the posterior groove (PG), which is the deep crevice directly behind the antihelix ridge.

The intention in providing such a detailed and complex auricular zone system is to be able to label specific auricular reflex points with the actual area of the external ear on which an auricular point is found during clinical detection. Both Chinese and European ear charts label the auricular acupoints with the somatotopic body organ that they represent. The standardization of zone terminology for verbally designating different anatomical regions of the ear can provide a universal system to facilitate international communication that is based on ear anatomy, not ear correspondences. While photographs and illustrations of the auricle are very useful in depicting various regions of the external ear, verbal descriptions of these pictures are often inadequate in precisely determining the auricular area indicated. Box 4.1 shows the auricular locations of the principal reflex points used in ear acupuncture by this zone coding system, rather than by pictures. Further indicated in Box 4.1 are the differences between the location of auricular points as described by Chinese auricular acupuncturists, denoted by the suffix 'C,' and the auricular zones delineated by European practitioners of auricular medicine, indicated by the suffix 'E.'

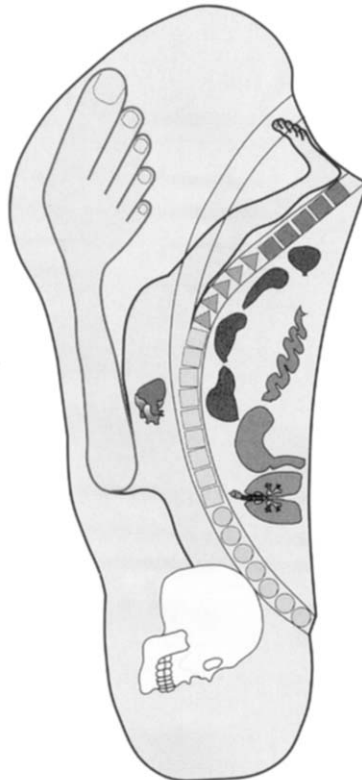
Somatotopic map on front side of ear



Auricular zones on front side of ear



Somatotopic map on back side of ear



Auricular zones on back side of ear

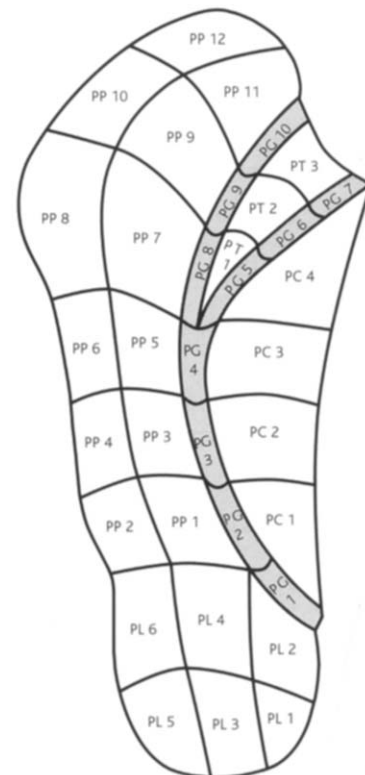


Figure 4.5 Auricular zones seen from anterior and posterior views of the ear, and their relationship to the somatotopic map on the ear.

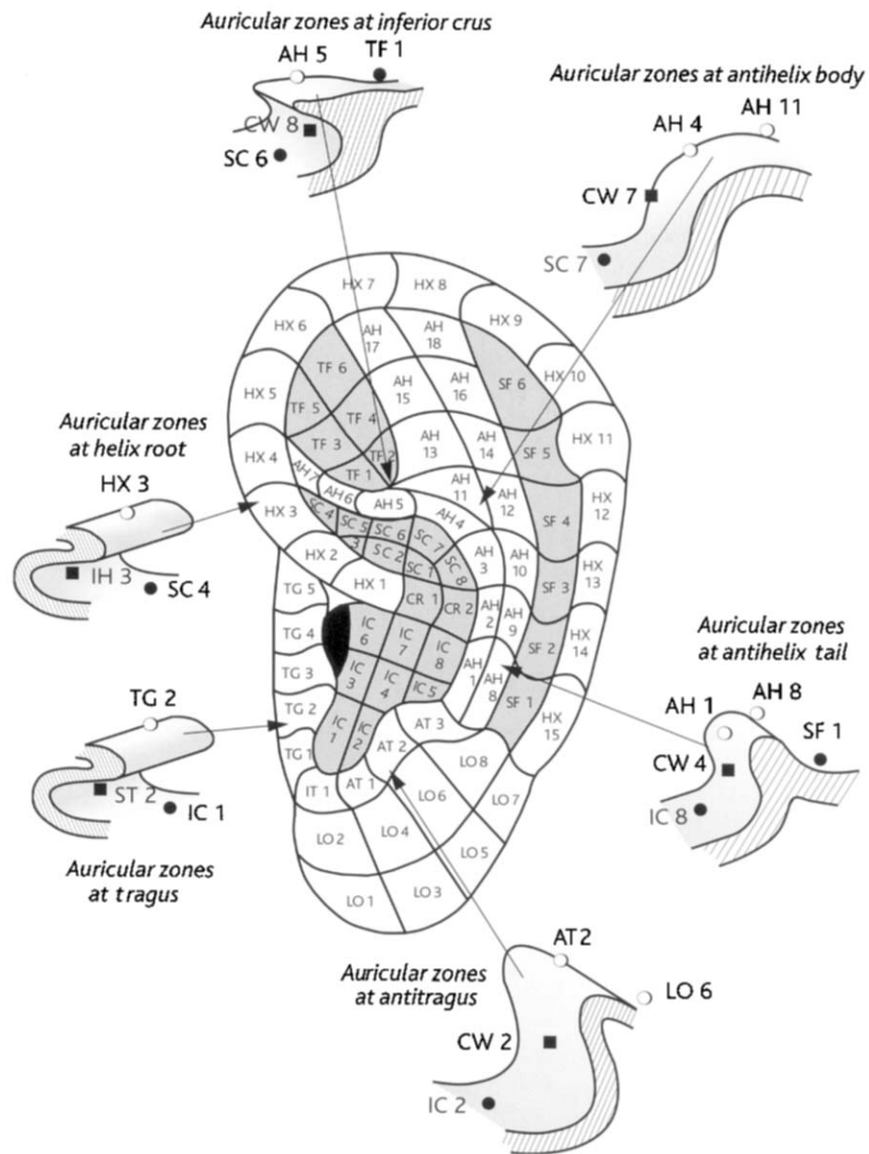


Figure 4.6 A depth view of the auricular zones showing the ascent from the concha to the concha wall to the antihelix, and also the location of hidden zones.

4.4 Somatotopic correspondences to auricular zones

The somatotopic representation of the cervical spine is said to be in zones AH 1 and AH 2 in European charts, but on the more peripheral zone AH 8 in many Chinese ear charts. The Chinese further report that the Lumbar Spine is found on the antihelix body in zones AH 11 and AH 12, while the Europeans maintain that the Lumbar Spine is located on the inferior crus in zones AH 5 and AH 6. A primary difference between the European and Chinese auricular charts is the location of points for the leg. The knee is said to be found on the superior crus zone AH 15 in Chinese ear charts, but the knee is represented in the triangular fossa zone TF 4 in European ear charts. Internal organs are also found in different auricular regions in these two systems. For example, the uterus is found in the triangular fossa zone TF 6 in the Chinese system, but the uterus is found underneath the helix root in the European system, in zone IH 3.

Some ear points are more easily identified once one knows this auricular zone system. Depicting the location of the Sympathetic (Autonomic) point or the Thalamus (Subcortex) point is often confusing because these two auricular points are hidden from a conventional view of the ear. The Sympathetic Autonomic point is found in zone IH 4, which is underneath the helix and near the triangular fossa, whereas the Thalamus point is found in zone CW 2, which is behind the antitragus and near the inferior concha. These zone identifications distinctly reveal the specific localization of these two ear points more clearly than many pictures of these points. It is also possible to show the

Box 4.1 Primary auricular points represented in different auricular zones

Zone	Auricular point	Zone	Auricular point	Zone	Auricular point
AH 1–2	Cervical Spine.E	LO 1	Master Cerebral	IC 1	Pituitary Gland
AH 3–4	Thoracic Spine.E	LO 2	Aggressivity point	IC 2	Lung 2
AH 5–6	Lumbar Spine.E	LO 3	Master Sensorial	IC 3	Trachea, Larynx.E
AH 7	Sacral Spine.E	LO 5	Trigeminal Nerve	IC 4	Heart.C, Lung 1
AH 8	Cervical Spine.C, Thyroid Gland.C	LO 6	Antidepressant, Limbic system	IC 5	Lung 1
AH 9–10	Thoracic Spine.C	LO 7	Teeth, Lower Jaw	IC 6	Mouth, Throat
AH 11–12	Lumbar Spine.C	LO 8	TMJ, Upper Jaw	IC 7	Esophagus
AH 13	Hip.C	HX 1	Point Zero	IC 8	Spleen.C
AH 15	Knee.C	HX 2	Diaphragm.C	CR 1	Stomach
AH 17	Ankle.C, Foot.C	HX 3	Rectum.C	CR 2	Liver
TF 1	Hip.E	HX 4	External Genitals.C	SC 1	Duodenum
TF 2	Shen Men	HX 7	Apex of Ear	SC 2	Small Intestines
TF 3–4	Knee.E, Leg.E	HX 12	Lumbar Spinal Cord	SC 3	Large Intestines
TF 5–6	Ankle.E, Foot.E	HX 13	Thoracic Spinal Cord	SC 4	Prostate.C
SF 1–2	Shoulder	HX 14	Cervical Spinal Cord	SC 5	Bladder
SF 3–4	Elbow, Arm	HX 15	Brainstem.E	SC 6	Kidney.C
SF 5	Wrist, Hand	IH 1	Ovary/Testis.E	SC 7	Pancreas
SF 6	Fingers	IH 2	Prostate/Vagina.E	SC 8	Spleen.E
AT 1	Forehead	IH 3	Uterus.E	IT 2	Endocrine point
AT 2	Temples, Asthma	IH 4	Sympathetic Autonomic point	CW 2	Thalamus point
AT 3	Occiput	IH 5–6	Kidney.E, Ureter.E	CW 3	Brain.C
TG 3	Adrenal Gland.C	IH 7	Allergy point	CW 4	Brainstem.C
TG 2	Tranquilizer point	IH 11	Wind Stream	CW 5	Thyroid Gland.E
TG 1	Pineal Gland.E	ST 2	Master Oscillation	CW 6	Thymus Gland.E
		ST 3	Larynx.C, Throat.C	CW 7	Adrenal Gland.E

differential location of other points found on the concha wall. The Chinese Brain point is found in zone CW 3 and the Brainstem in CW 4. The European locations for the Thyroid Gland are localized in zone CW 4/CW 5, the Thymus Gland in CW 6, and the Adrenal Gland in zone CW 7. Understanding how the contours and landmarks on the ear can assist the identification and comparison of such ear points is an attainable goal.

4.5 Representation of Nogier phases in auricular zones

In subsequent revisions of the somatotopic representation of the body on the external ear, Paul Nogier has postulated two additional auricular microsystems that are distinct from the original inverted fetus pattern. Each anatomical region of the external ear can represent more than one microsystem point. As noted in Chapter 2, the three different Nogier phases represent embryological tissue in three different territories on the auricle. Territory 1 consists of the antihelix, the antitragus, and areas adjacent to the antihelix, such as the scaphoid fossa, triangular fossa and helix. Territory 2 consists of the concha, including the superior concha, the inferior concha, the concha ridge and the concha wall. Territory 3 consists of the lobe, the tragus, the intertragic notch and the most inferior region of the helix tail. The phase number for representation of mesodermal tissue concurs with the number for each territory. Phase I mesodermal tissue is represented in Territory 1, Phase II mesodermal tissue is represented in Territory 2, and Phase III mesodermal tissue is represented in Territory 3. The endodermal tissue for different phases shifts from Territory 2 in Phase I, to Territory 3 in Phase II, to Territory I in Phase III. The ectodermal tissue for different phases shifts from Territory 3 in Phase I, to Territory 1 in Phase II, to Territory 3 in Phase III. Functionally, Phase I points are more associated with representation of acute somatic reactions and

Phase II points are more reflective of chronic, degenerative conditions. Phase III points seem to reflect subacute syndromes that are not as serious as pathological states represented in Phase II, but are the most salient points in patients with underlying obstacles to treatment success.

4.5.1 Auricular zones for different phases of mesodermal myofascial tissue

Vertebral column: For both the Chinese system and the Nogier Phase I system, the vertebral column is found in Territory 1, along the medial side of the antihelix. The Chinese state in their texts that the whole vertebral column is limited to the body and tail of the antihelix. Nogier has indicated that the Phase I Cervical Vertebrae are found on the antihelix tail, the Thoracic Vertebrae are found on the antihelix body, and the Lumbosacral Vertebrae extend onto the inferior crus of the antihelix. The Chinese charts do show the Buttocks and Sciatic points on the inferior crus, but do not include the lower vertebrae there. In Nogier's Phase II, the Lumbosacral Vertebrae are found on the helix root, whereas the Thoracic and Cervical Vertebrae extend peripherally onto the concha ridge, in Territory 2. In Phase III, The Cervical, Thoracic, and Lumbosacral Vertebrae occur along the surface of the tragus in Territory 3.

Upper and lower limbs: The Chinese placed the Hip, Knee, and Foot on the superior crus of the antihelix of Territory 1. Nogier placed the Phase I lower limb points in the nearby triangular fossa

Table 4.3 Mesodermal tissue for different phases found in auricular zones

No.	Anatomical region	Chinese	Phase I	Phase II	Phase III	Phase IV
10	Cervical Spine	AH 1	AH 1–2	CR 2	TG 1–2	PG 1–2
11	Thoracic Spine	AH 2–3	AH 3–4	CR 1	TG 2–3	PG 3–4
12	Lumbosacral Spine	AH 4	AH 5–6	HX 1	TG 4–5	PG 5–6
18	Chest and Ribs	AH 10	AH 10	SC 1	TG 3	PG 3
19	Abdomen	AH 11	AH 11	IH 1	TG 4	PG 4
21	Hip and Buttocks	AH 13	TF 1	IC 1–2	AH 1, AT 3	PT 1
23	Knee and Thigh	AH 15	TF 4	IC 2/4	AT 2	PT 2
25	Ankle and Calf	AH 17	TF 5	IC 5	AT 1	PT 3
26	Foot, Heel, Toes	AH 17	TF 5–6	IC 8	IT 1	PT 3
30	Hand and Fingers	SF 6	SF 6	SC 8	LO 1	PP 9–10
32	Wrist and Forearm	SF 5	SF 5	SC 7	LO 3	PP 7–8
34	Elbow and Arm	SF 4	SF 4	SC 5–6	LO 5	PP 5–6
36	Shoulder	SF 2	SF 2	SC 4	LO 7, SF 1	PP 3–4
38	Head and Scalp	AT 1–3	IH 7–9	SC 3	LO 4	PL 4
49	Tongue	LO 4	HX 8–11	IC 7	LO 2	PL 5
53	Skin	SF 6	HX 12–15	SC 4	LO 4	–
69	Heart	IC 4	AH 3, 11	SC 7	LO 8	PP 5
76	Diaphragm	HX 2	AH 11	SC 2	TG 4	–
81	Spleen	IC 8	CW 9	SC 8	LO 8	PC 3
84	Kidney and Ureter	SC 6	IH 5, 6	IC 7–8	AH 1, 8	PP 10
88	Prostate	SC 4	IH 3–4	IC 1	LO 2	–
89	Uterus	TF 5/6	IH 3–4	IC 2	LO 2	–
91	Ovaries/Testes	CW 1	IH 1–2	IC 4–5	LO 4	–
92	Adrenal Gland	TG 2/3	HX 2–7	IC 3, 6	LO 6	PG 5

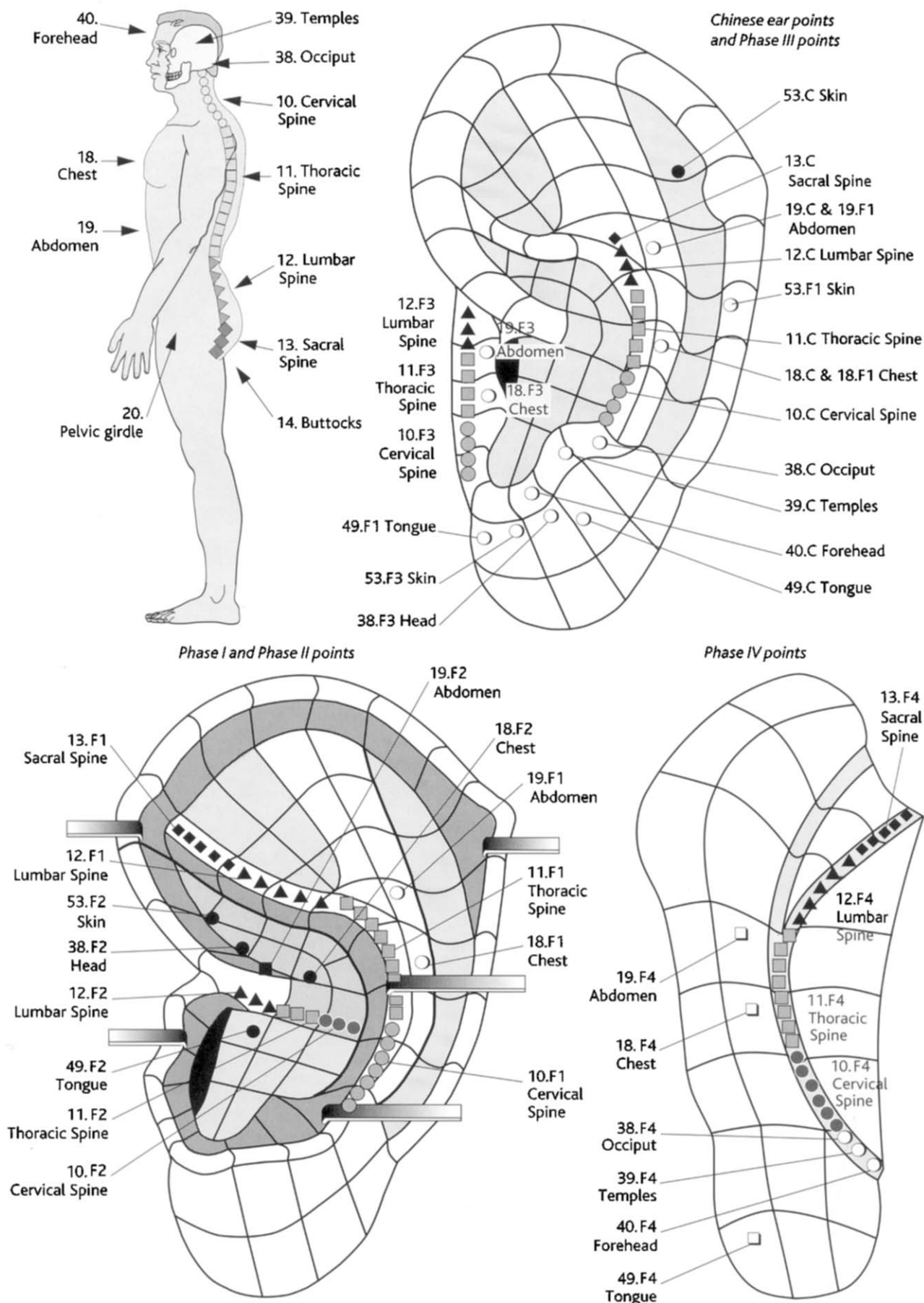


Figure 4.7 Phases for mesodermal vertebral spine and head points.

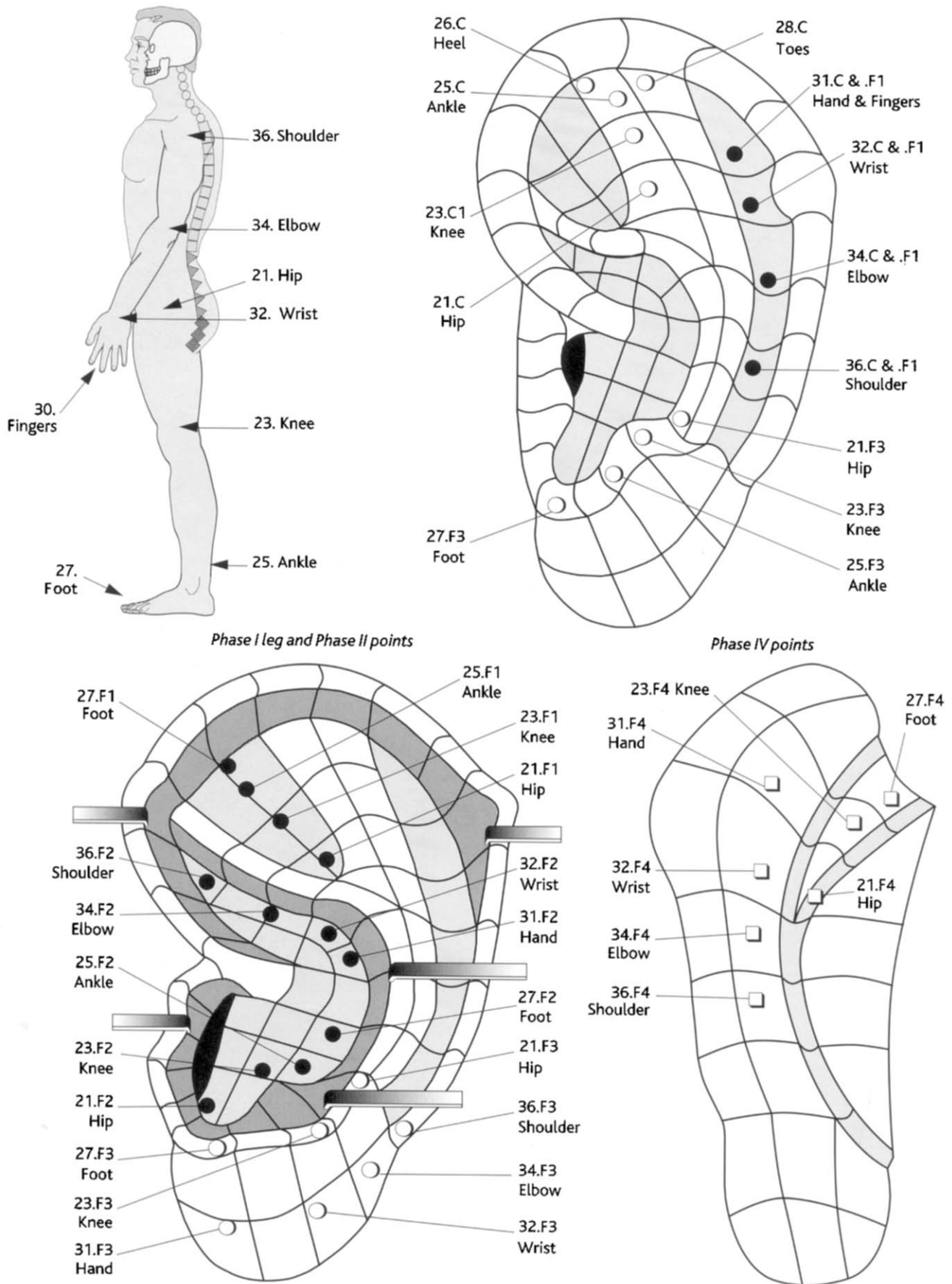


Figure 4.8 Phases for mesodermal upper limb and lower limb points.

of Territory 1. In both the Chinese system and Phase I of Nogier's system, the Shoulder, Elbow, and Hand are found in identical areas of the scaphoid fossa. In Nogier's Phase II, the upper limbs shift to the inferior concha and the lower limbs are found in the superior concha. Both limbs are thus located in Territory 2. In Phase III, the ear points for the upper and lower limbs shift to the lobe and antihelix of Territory 3.

Face and skull: The auricular points for head areas like the Skull, Jaw, Eye, and Ear are found on the antitragus of Territory 1. In Phase II, the points for the head are found with other musculoskeletal points on the concha wall of Territory 2. In Phase III, the head is found at the most inferior level of the tragus in Territory 3.

4.5.2 Auricular zones for different phases of internal organ tissue

Endodermal internal organs: Almost all ear reflex points for the endodermal internal organs are found in the concha of Territory 2 for both the Chinese system and for Phase I of Nogier's system. The Phase I internal organ points include ear reflex points for the digestive system, such as the Stomach and Intestines, respiratory points such as the Lungs and Bronchi, abdominal organs such as the Bladder, Gall Bladder, Pancreas, and Liver, and the endocrine glands such as the Thymus, the Thyroid, and the Parathyroid. All of these endodermal points shift to the lobe and the tragus of Territory 3 in Phase II, and to the helix and antihelix areas of Territory 1 in Phase III.

Mesodermal internal organs: While most cells which develop from the mesodermal layer of the embryo become part of the musculoskeletal system, some mesodermal tissue differentiates into visceral organs. These mesodermal internal organs include the Heart, the Spleen, the Kidneys, the Ureter, the Adrenal Glands, and Genital organs, such as the Vagina, the Uterus, the Prostate, the Ovaries and the Testes. In the Nogier phases, this set of internal organs is found in the same territories that the musculoskeletal tissue is found. In Phase I these points are found in Territory 1, in Phase II they are found in Territory 2, and in Phase III they are found in Territory 3.

Table 4.4 Endodermal tissue for different phases found in auricular zones

No.	Anatomical region	Chinese	Phase I	Phase II	Phase III	Phase IV
61	Esophagus	IC 7	IC 6	LO 1	HX 1	PC 2
63	Stomach	CR 1	IC 7, CR 1	LO 3	HX 2–5	PC 2
64	Duodenum	SC 1	SC 1	LO 5	TF 4	PC 3
65	Small Intestines	SC 2	SC 1–2	LO 4	IH 3–9	PC 3
66	Large Intestines	SC 3	SC 3, 4	AT 1–3	HX 10–14	PC 4
67	Rectum	HX 3	IH 3	IT 1	HX 15	PC 4
68	Circulatory System	–	CW 4–8	CW 1–3	CW 9–10	PG 2–5
70	Lungs	IC 4	IC 4, 5	LO 8	SF 2–3	PC 2
71	Bronchi	IC 6	IC 3	LO 7	SF 1	PC 2
74	Larynx	ST 4	ST 1	LO 8	AH 4	PC 2
79	Liver	CR 2	CR 2, SC 8	LO 7	SF 4, 5	PC 3
82	Gall Bladder	SC 8	SC 8	LO 2	AH 13, 14	PC 3
83	Pancreas	SC 7	SC 7	LO 1	TF 3, 4, 5	PC 3
86	Bladder	SC 5	SC 5–6	LO 1, LO 3	SF 6 AH 18	PC 3
87	Urethra	HX 4	SC 4	LO 1	TF 6	PC 3
94	Thymus Gland	–	IC 8	LO 5	HX 6–8	PG 4
96	Thyroid Gland	AH 8	IC 2	AH 1, 8	AH 2	PG 3
97	Parathyroid Gland	–	IC 1	HX 15	AH 1	PG 1

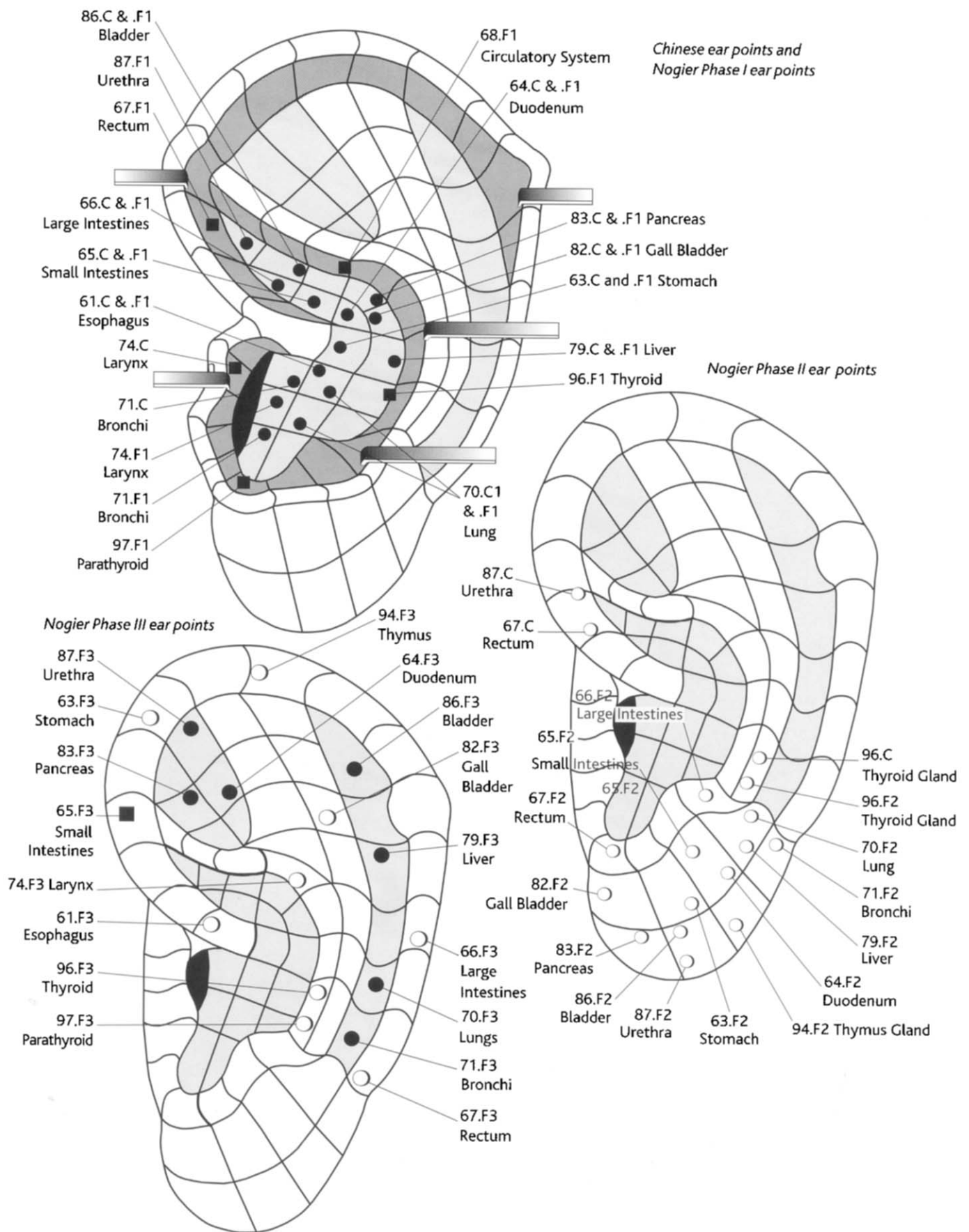


Figure 4.9 Phases for the endodermal internal organs.

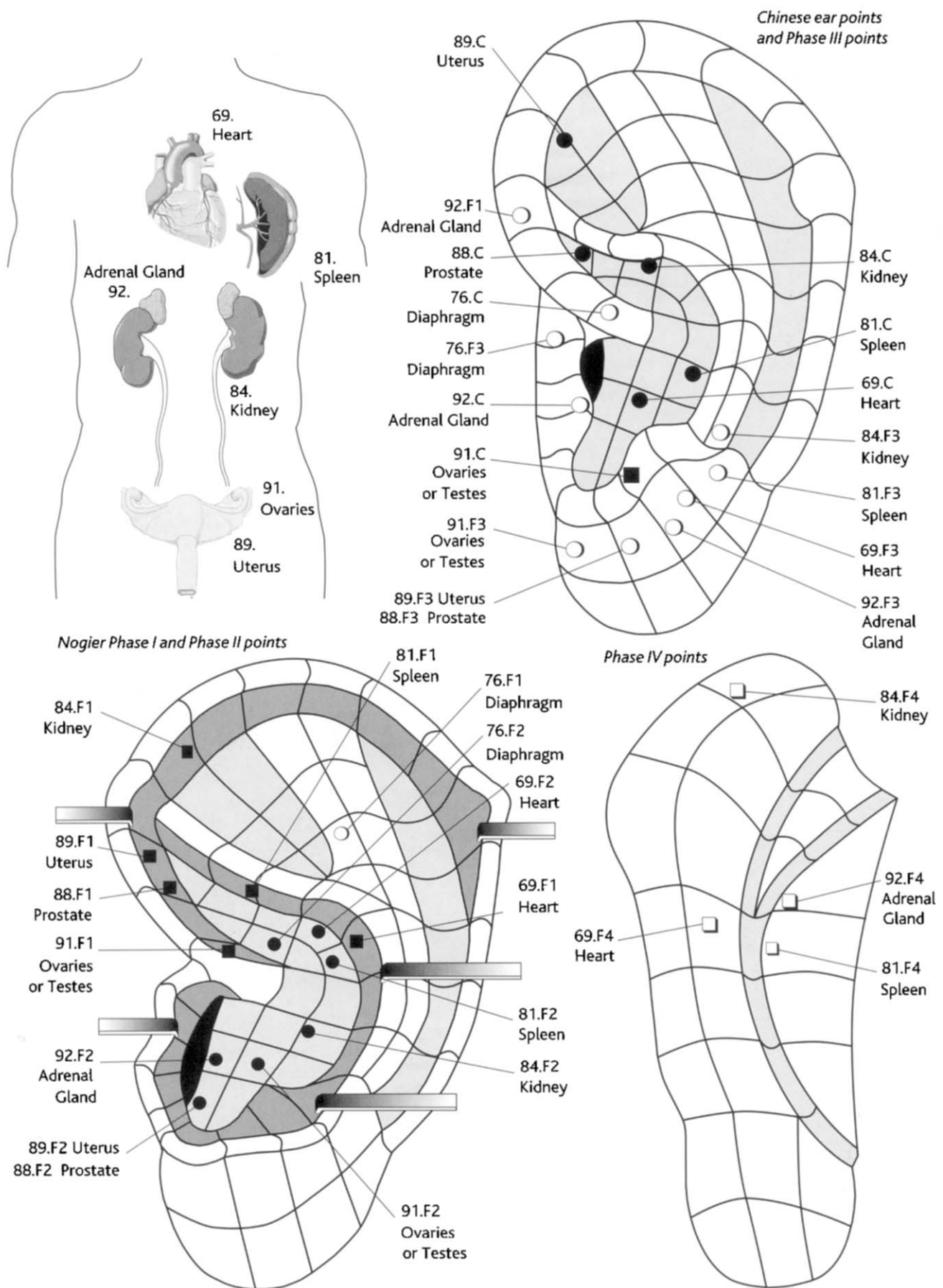


Figure 4.10 Phases for the mesodermal internal organs.

4.5.3 Auricular zones for different phases of ectodermal neuroendocrine tissue

Chinese neuroendocrine points: The Chinese have identified only a few neuroendocrine system points on the concha wall of Territory 2, whereas the European auricular charts have indicated many areas of the auricle which represent the brain and spinal cord. There is concurrence between the Oriental and Western systems for those few ear points the Chinese have recognized. The master point that Nogier and his colleagues first identified as the Thalamus point was labeled the Subcortex point by the Chinese. While the Chinese ear charts do describe the location of the Pituitary Gland in a similar location as the European ear charts, the Chinese do not go into as much detail regarding the peripheral endocrine glands that are regulated by the pituitary gland.

Table 4.5 Ectodermal tissue for different phases found in auricular zones

No.	Anatomical region	Chinese	Phase I	Phase II	Phase III	Phase IV
54	Eye	LO 4	LO 4	AH 11	IC 3	PL 4
59	External Ear	TG 5	LO 1	TG 5	SC 6	–
95	Mammary Gland	AH 10	LO 1	HX 7–9	IC 1	PG 3
98	Pineal Gland (epiphysis)	–	TG 1	HX 1	SC 5	–
99	Pituitary Gland (hypophysis)	IC 1	IT 2, IC 1	AH 15–18	CW 1	PC 1
109	Sympathetic Nerves	IH 4	CW 2	HX 13–14	CR 1–2	PG 3–6
110	Parasympathetic Sacral Nerves	–	CW 3	HX 15	CR 2	PG 7
113	Vagus Nerve	–	CW 1	HX 12	CR 1	PG 1
124	Spinal Cord	–	AH 8, SF 1	AH 8, 9 SF 1, 2	IC 5	PP 2, 4, 6
127	Brainstem Medulla Oblongata	CW 4	LO 7	HX 1–3	SC 1	PP 2
131	Reticular Formation	–	LO 8	AH 10, 12 SF 3–4	IC 8	PL 6
133	Red Nucleus	–	LO 6	CW 10	IC 6	PL 4
134	Substantia Nigra	–	LO 6	IH 1	IC 7	PL 4
135	Striatum (Basal Ganglia)	–	LO 4, AT 1	HX 9–11	IC 3, 4	PL 4
137	Hypothalamus	–	LO 6	AH 3	IC 4	PL 2
138	Thalamus (Subcortex, Brain)	CW 2	AT 2–3	AH 11	CW 1–3	PG 1
140	Hippocampus	–	LO 2	CW 9	IC 6	PL 2
141	Amygdala	–	LO 2, IT 1	CW 8	IC 7	PL 2
143	Cingulate Gyrus	–	IT 1	CW 7	IC 6	PL 2
145	Cerebellum	–	AT 3, AH 1	HX 4–6	SC 8	PP 1
147	Occipital Cortex	–	LO 7	SF 4 AH 12	SC 7	PL 4
148	Temporal Cortex	–	LO 5	SF 5 AH 14	SC 6	PL 4
149	Parietal Cortex	–	LO 5	SF 6 AH 16, 18	SC 6	PL 3
150	Frontal Cortex	–	LO 3	TF 1–2 AH 13	SC 5	PL 2
151	Prefrontal Cortex	–	LO 1	TF 3–4 AH 15–17	SC 4	PL 1

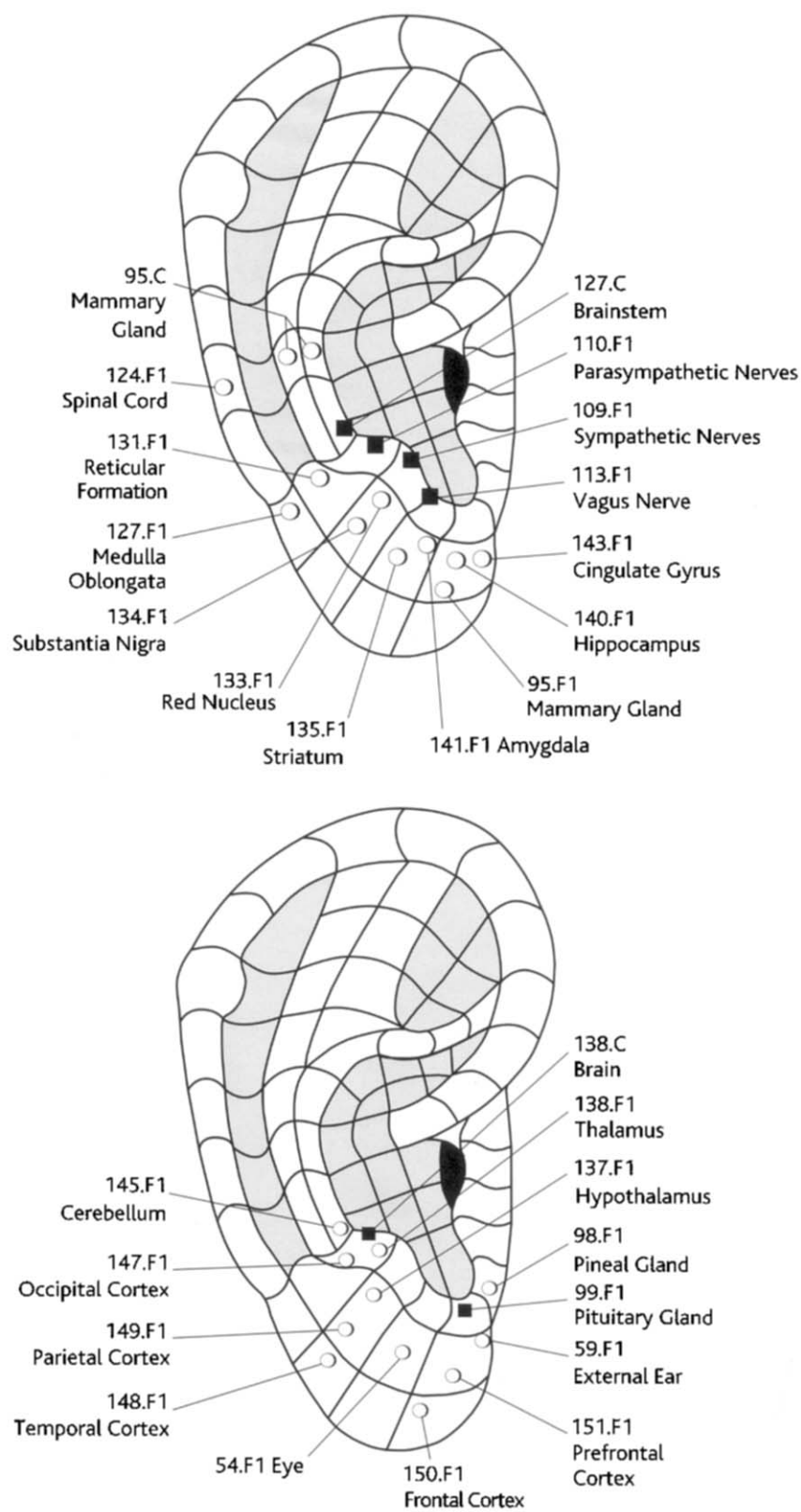


Figure 4.11 Phase I neuroendocrine and Chinese ear points.

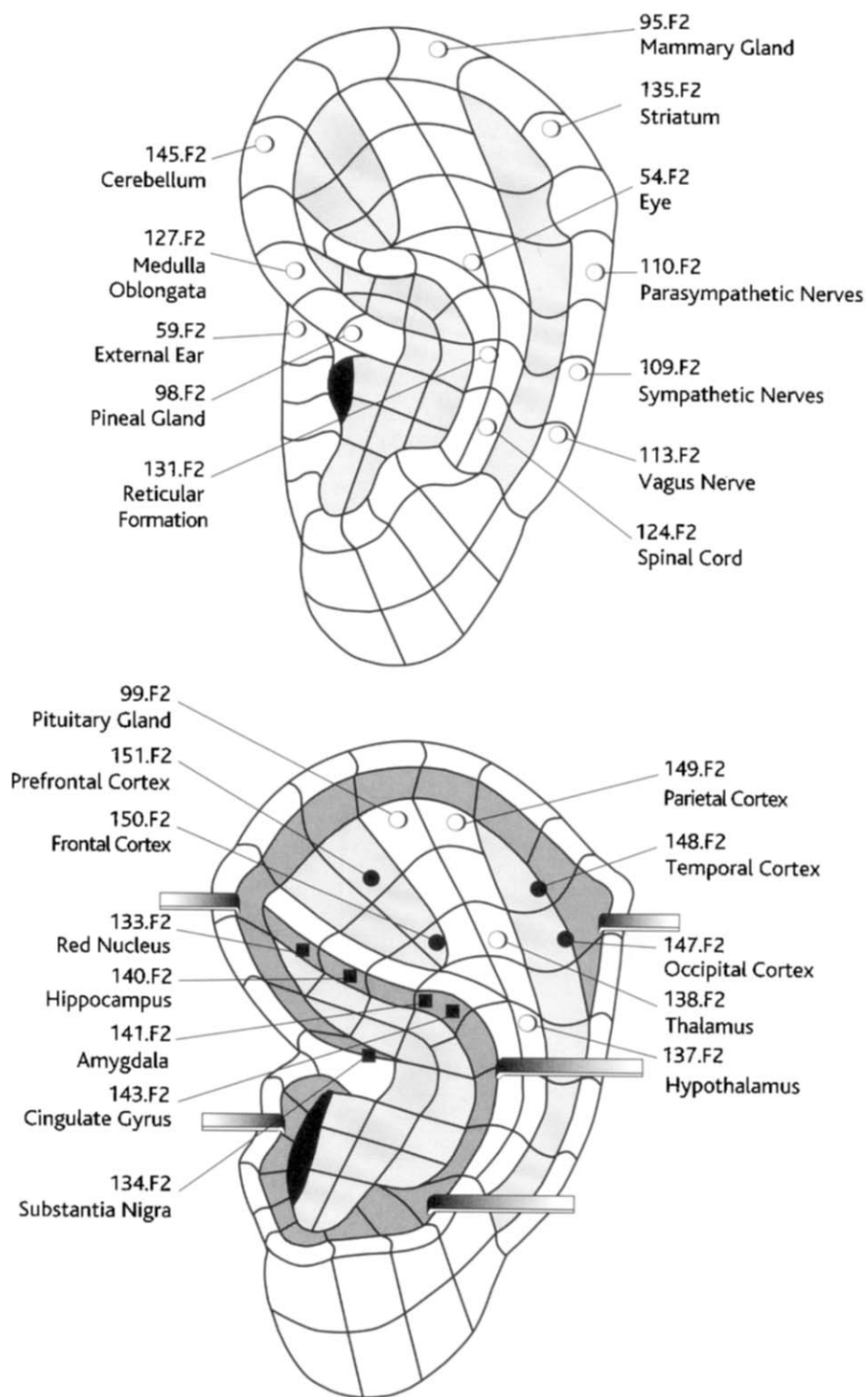


Figure 4.12 *Phase II neuroendocrine ear points.*

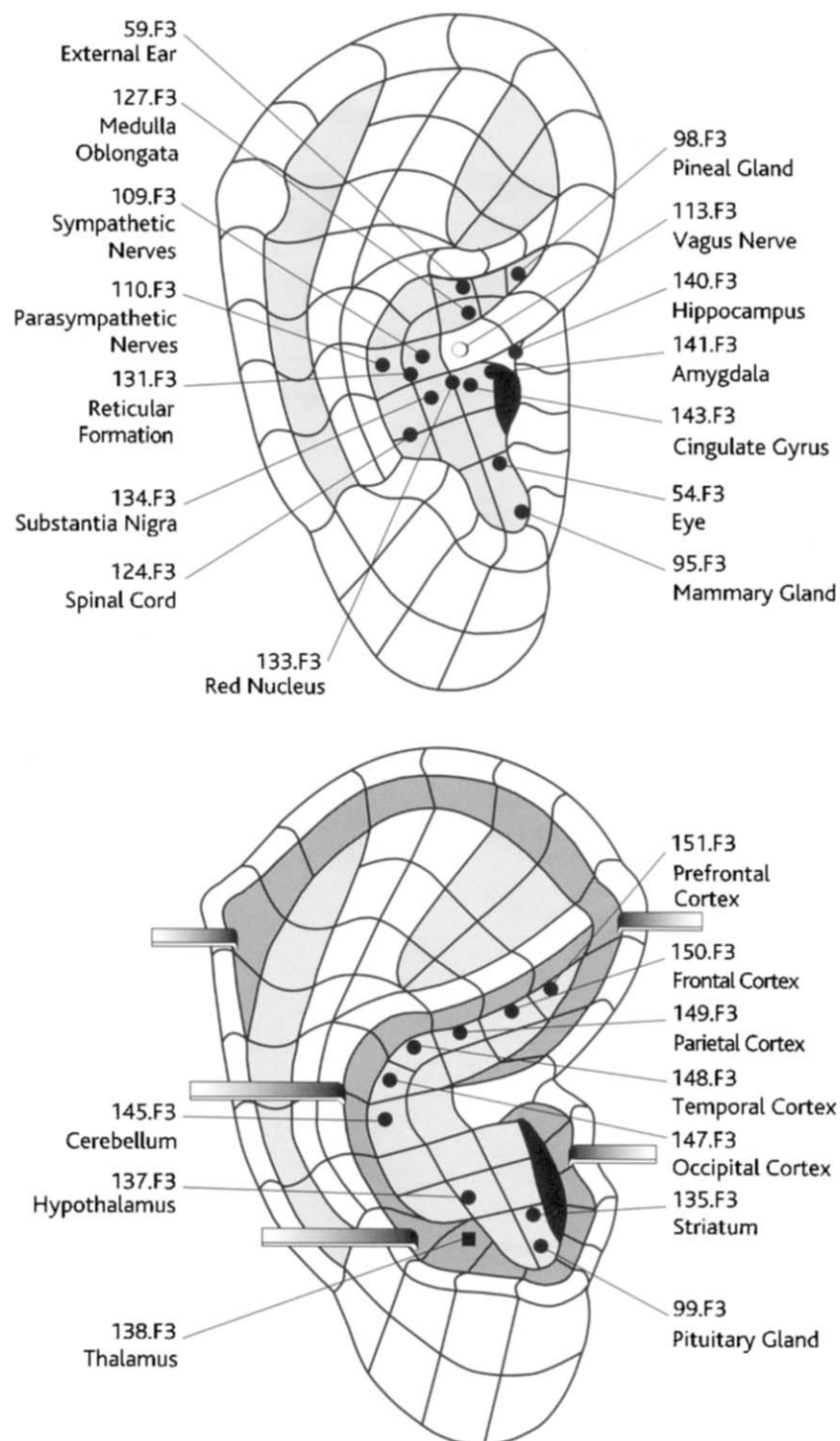


Figure 4.13 *Phase III neuroendocrine ear points.*

Phase I neuroendocrine points: The nervous system and the endocrine system are first represented on the lobe of Territory 3 in Phase I of Nogier's system. In all three phases, the Nogier system allows for different auricular localizations for pituitary control of endocrine hormones, as contrasted with the actual placement of the peripheral endocrine gland itself. The Thalamus and Hypothalamus are found on the external surface of the antitragus, whereas they were previously described on the concha wall and inferior concha. The Cerebral Cortex is still represented on the ear lobe

Phase II neuroendocrine points: The ectodermal neuroendocrine systems shift to the helix, the antihelix, and the triangular fossa regions of Territory 1 in Phase II. The Pituitary point for genital control in Phase II is located in the triangular fossa region, near the Chinese Uterus point. The Frontal Cortex in Phase II corresponds to the auricular location for the Chinese master point Shen Men. The Cerebral Cortex in Phase II is found along the superior helix, leading to the Spinal Cord located on the helix tail.

Phase III neuroendocrine points: The neuroendocrine systems shift to the concha in Territory 2 in Phase III. The cortical areas are located in the superior concha and the subcortical areas in the inferior concha. The location of the Phase III Anterior Hypothalamus and Posterior Hypothalamus in the inferior concha coincides with the location of the Chinese Lung points used in the treatment of narcotic detoxification and drug abuse.

4.5.4 Nogier phases related to auricular master points

There are certain points on the auricle used in both Chinese ear acupuncture and European auricular medicine that do not relate to one specific anatomical organ but affect a broad range of physiological functions. These ear points are referred to as master points, the two principal examples being the Chinese ear point Shen Men and the Nogier auricular locus identified as Point Zero. These two functional points do correspond to specific anatomical organs when viewed from the perspective of the Nogier phases.

Frank (1999) has noted that Shen Men is identified at the auricular locations consistent with the Phase I Spleen projection, the Phase II Thalamus projection, and Phase III Liver projection. The spleen deals with inflammatory cellular elements and is thus reasonably seen in many inflammatory conditions. The thalamus is a significant central nervous system structure involved in the modulation of pain signals from the spinal cord to the cerebral cortex. It is reasonable, therefore, to find this zone reactive with chronic, degenerative, painful conditions. The liver is associated with hepatobiliary physiology and therefore this zone would reasonably be active in subacute or chronic pain or dysfunctional problems.

Point Zero lies in the helix root area innervated by the vagus nerve that supplies the endodermal organ structures represented in Phase I at the superior and inferior concha. Vagus nerve activity is commonly seen with physiologic stress and painful experiences. Phase II location at the region where Point Zero is found is consistent with location of the Cerebellum. Specific cerebellar functions include coordination of somatic motor activity, regulation of muscle tone, and the balancing mechanisms of equilibrium. With such significant impact on the body's coordination functions, it is not surprising that this point is reactive in many chronic degenerative Phase II conditions. The Phase III point for the Corpus Callosum is located at the anatomical position of Point Zero. This neural bridge between the left and right cerebral cortex is a critical relay for proper neurophysiologic function. Phase III disturbances at this point may manifest as attention deficit disorder, stuttering, dyslexia, confusion with directions and visual and auditory processing disturbances.

4.6 Microsystem points represented in auricular zones

Each anatomical part of the human body and each health condition are represented in the auricular microsystem codes by an ear reflex point designated by a number and a letter extension. The numbers continue from 0.0 to over 200.0, each number designating a different part of human anatomy. The letter extensions following the decimal point shown in Box 4.2 indicate whether that ear reflex point belongs to the Chinese ear acupuncture microsystem, 'C', the European auriculotherapy microsystem, 'E', or whether it is a universally accepted location. In some cases, there is more than one Chinese or European ear reflex point for a given body area. In those instances, there can be several extensions, such as .C1, .C2, and .C3. Box 4.2 also shows how the Nogier Phases I–III are indicated by .F1–.F3 and .F4 for the fourth phase on the posterior side of the ear.

4.6.1 Helix zones

- HX 1** Point 0, Point of Support, Solar Plexus, Umbilical Cord, External Genitals.E, Penis or Clitoris, Sexual Desire.
- HX 2** Diaphragm.C.
- HX 3** Rectum.C, Anus, Urethra.C, Weather point.
- HX 4** External Genitals.C.
- HX 5** Psychosomatic point, Psychotherapeutic point, Reactional point (Point R).
- HX 6** Omega 2.
- HX 7** Allergy point, Apex of Ear.
- HX 8**
- HX 9** Tonsil 1.
- HX 10** Liver Yang 1.
- HX 11** Darwin's point, Liver Yang 2, Helix 1.
- HX 12** Lumbosacral Spinal Cord, Alertness.
- HX 13** Thoracic Spinal Cord, Helix 2.
- HX 14** Cervical Spinal Cord, Tonsil 2, Helix 3.
- HX 15** Medulla Oblongata, Tonsil 3, Helix 4, Sexual Compulsion.

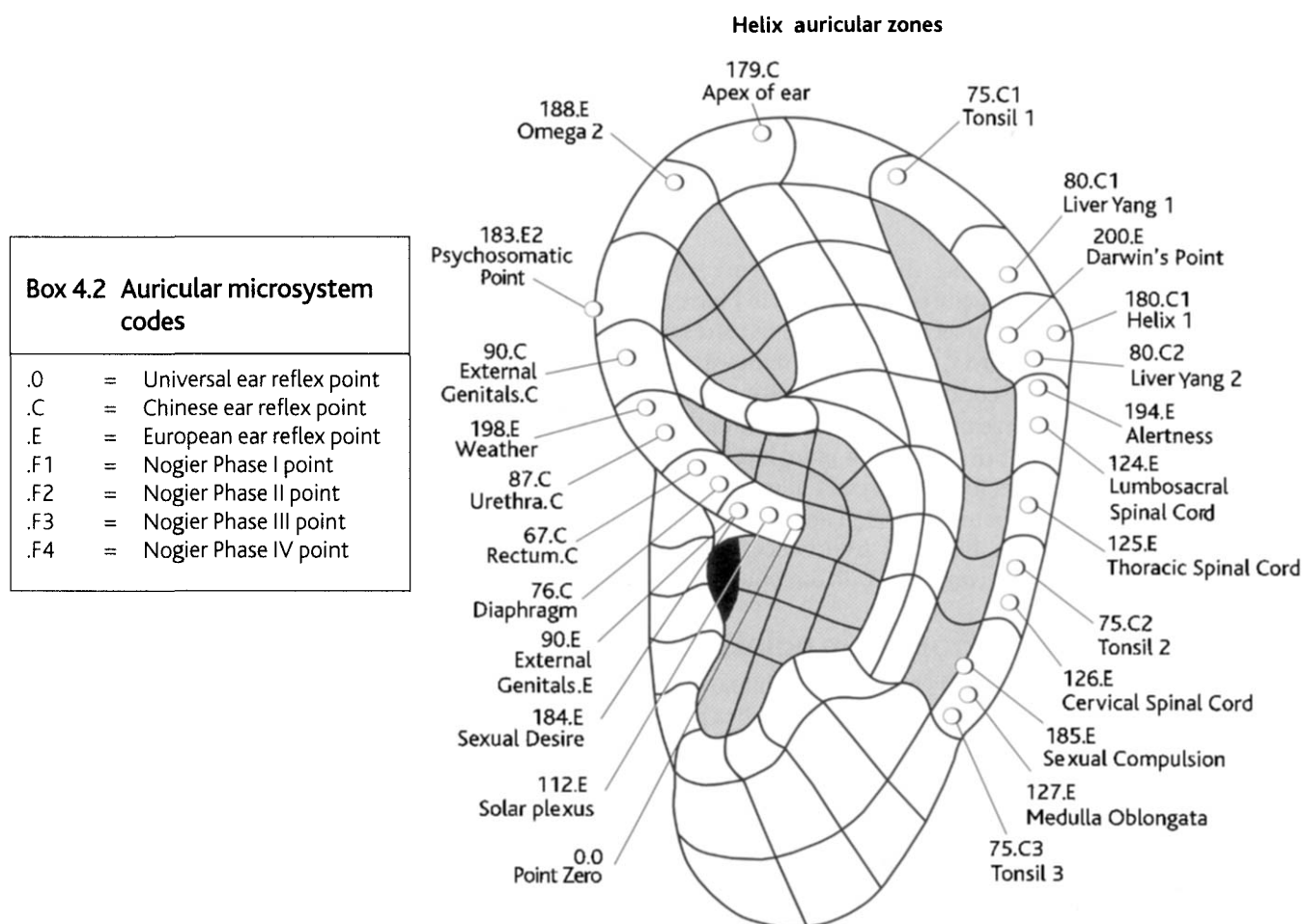


Figure 4.14 Helix zones and corresponding auricular points.

4.6.2 Antihelix zones

- AH 1** Upper Cervical Vertebrae, Cerebellum.
AH 2 Lower Cervical Vertebrae, Torticollis.
AH 3 Upper Thoracic Vertebrae, Heart.E, Mammary Gland.C.
AH 4 Lower Thoracic Vertebrae, Lumbar Vertebrae.C, Abdomen.
AH 5 Upper Lumbar Vertebrae, Buttocks.
AH 6 Lower Lumbar Vertebrae, Sciatic Nerve, Sciatica, Ischium.
AH 7 Sacral Vertebrae, Autonomic point, Sympathetic point.
AH 8 Upper Anterior Neck Muscles, Torticollis, Cervical Spine.C.
AH 9 Lower Anterior Neck muscles, Clavicle.E, Thoracic Spine.C, Scapula.E, Thyroid Gland.C.
AH 10 Chest and Ribs, Thorax, Pectoral Muscles, Breast, Mammary Gland.C, Lumbar Spine.C.
AH 11 Abdomen, Lumbago (lumbodinia) point, Heat point.
AH 12 Abdomen. **AH 16** Thumb.E.
AH 13 Hip.C. **AH 17** Heel.C, Ankle.C.
AH 14 Knee joint.C2. **AH 18** Toes.C.
AH 15 Knee.C1.

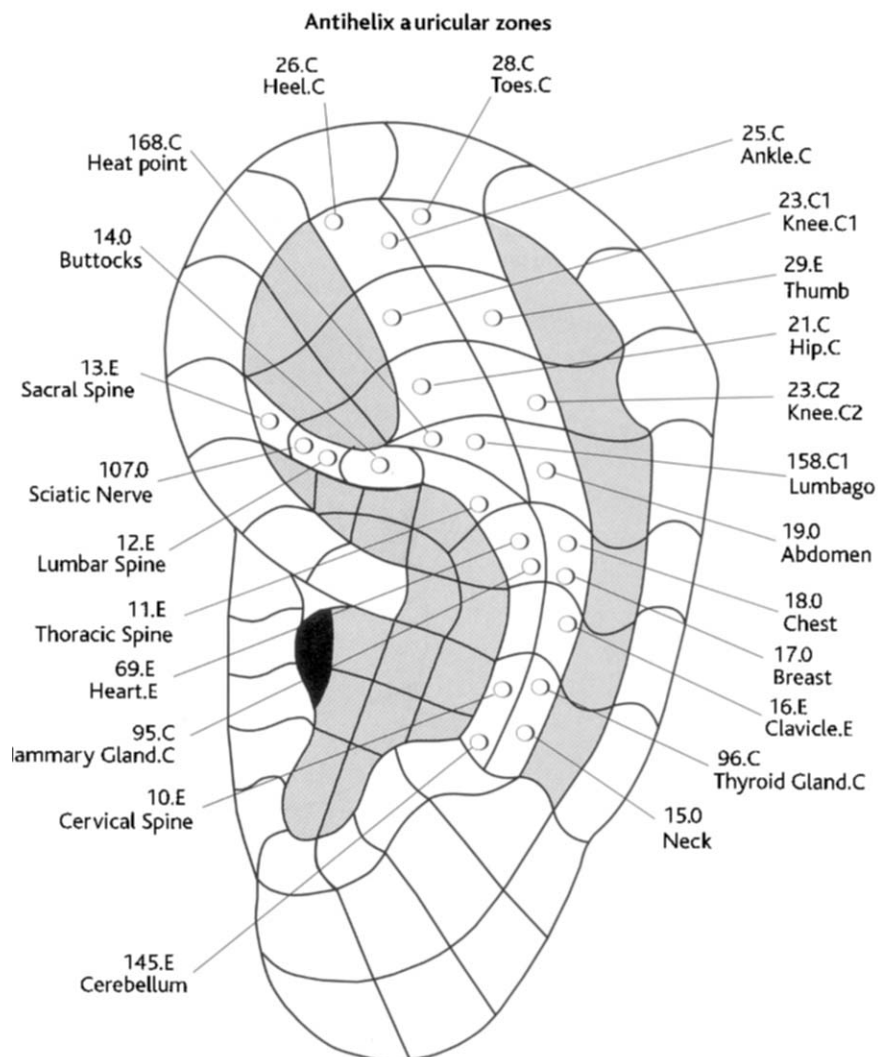


Figure 4.15 Antihelix zones and corresponding auricular points.

4.6.3 Internal helix zones

- IH 1 Ovaries or Testes.E.
- IH 2 Vagina or Prostate.E.
- IH 3 Uterus.E.
- IH 4 Sympathetic Autonomic point, Ureter.E.
- IH 5 Kidney.E, Hemorrhoids.C1.
- IH 6 Kidney.E.
- IH 7 Allergy point.
- IH 11 Wind Stream, Lesser Occipital Nerve.
- IH 12 Lumbar Sympathetic Preganglionic Nerves.

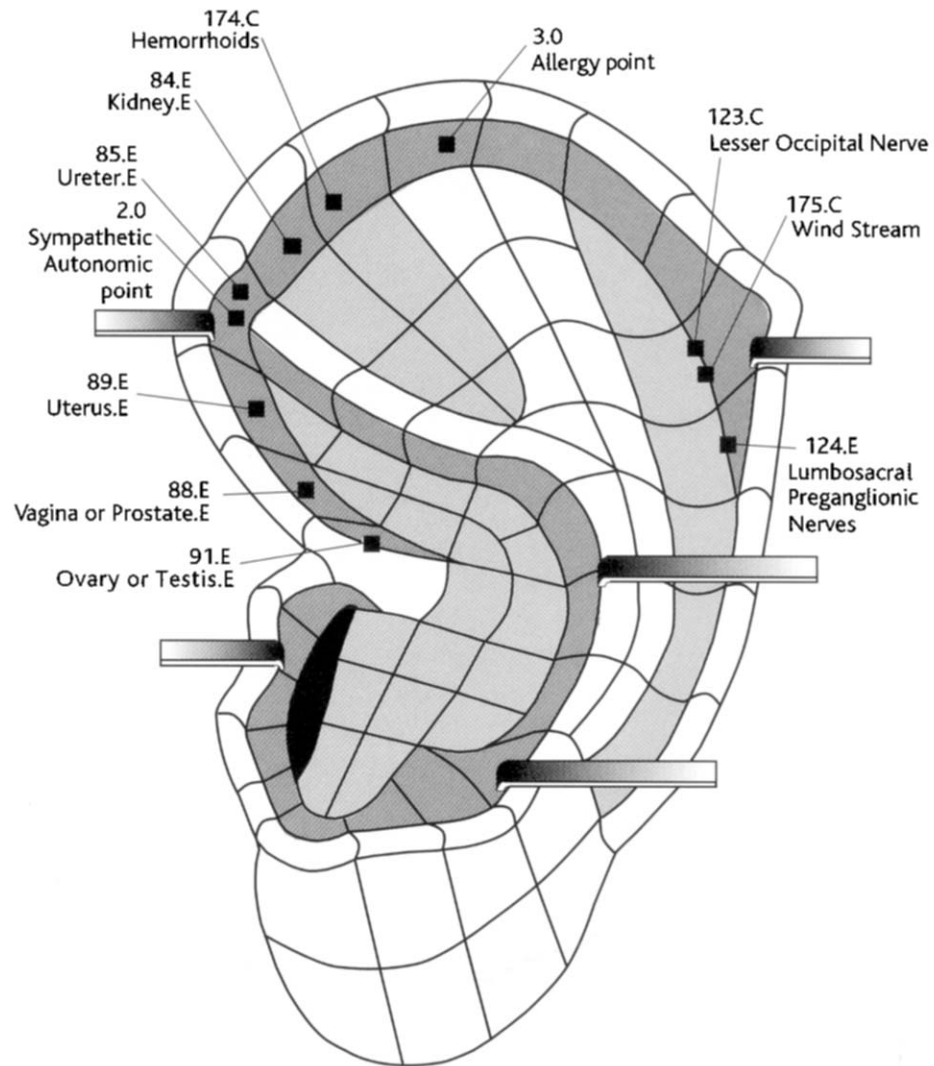


Figure 4.16 Internal helix zones and corresponding auricular points.

4.6.4 Lobe zones

- LO 1** Master Cerebral point, Master Omega point, Nervousness, Neurasthenia, Fear, Worry, Psychosomatic point, Prefrontal Lobe, Optic Nerve, Analgesic point, Dental Analgesia 2 (Tooth extraction anesthesia, lower teeth), Limbic System 1, Prostaglandin point 1.
- LO 2** External Nose.E, Frontal Cortex, Limbic System 2, Rhinencephalon, Septal Nucleus, Nucleus Accumbens, Olfactory Bulb, Olfactory Nerve, Amygdala, Aggressivity point, Irritability point, Dental Analgesia 1 (Tooth extraction anesthesia, upper teeth).
- LO 3** Face, Cheeks, Lips, Tonsil 4, Helix 6, Parietal Cortex.
- LO 4** Master Sensorial, Eye, Frontal Sinus, Tongue.C, Palate.C.
- LO 5** Internal Ear.C, Tongue.E, Midbrain Tegmentum, Trigeminal Nerve, Helix 5.
- LO 6** Upper Jaw, Maxilla, Vertex, Hippocampus, Temporal Cortex, Auditory Line, Parietal Cortex.
- LO 7** Lower Jaw, Mandible, Chin, Pons.
- LO 8** TMJ, Teeth, Antidepressant point, Sneezing point, Salivary Gland (parotid gland).

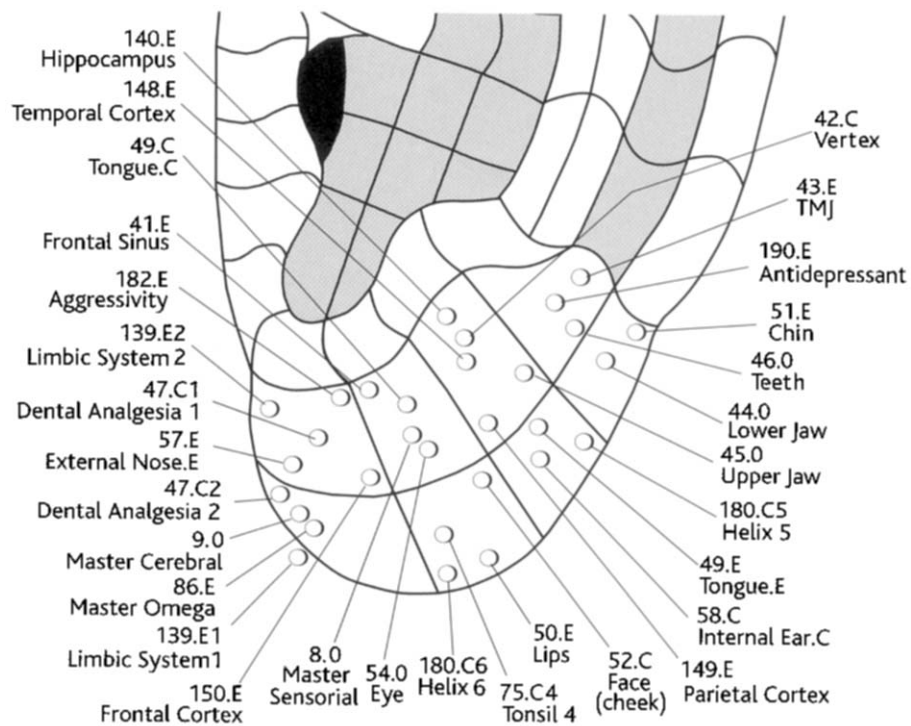


Figure 4.17 Lobe zones and corresponding auricular points.

4.6.5 Scaphoid fossa zones

- SF 1 Master Shoulder, Clavicle.C, Appendix Disorder 3.
- SF 2 Shoulder, Chinese Shoulder joint.
- SF 3 Upper Arm, Chinese Shoulder, Appendix Disorder 2.
- SF 4 Elbow, Forearm.
- SF 5 Wrist, Hand, Skin Disorder.C, Urticaria point.
- SF 6 Fingers, Appendix Disorder 1.

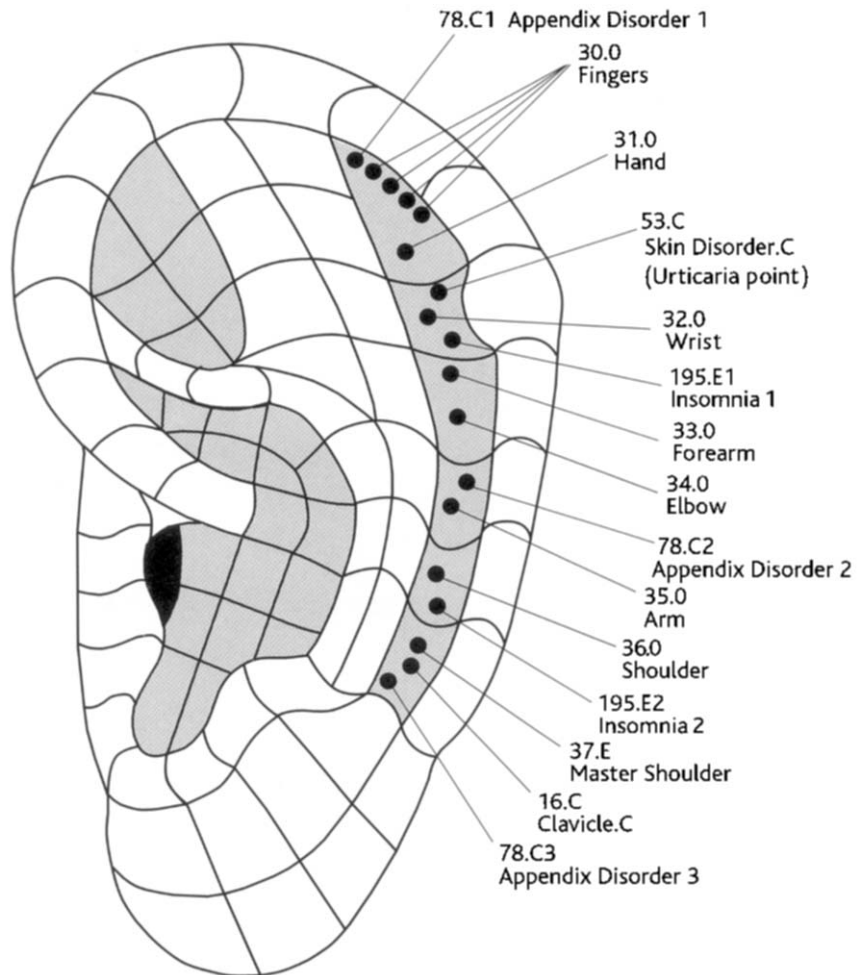


Figure 4.18 Scaphoid fossa zones and corresponding auricular points.

4.6.6 Triangular fossa zones

- TF 1 Hip.E, Pelvic Girdle.
TF 2 Shen Men (Spirit Gate, Divine Gate).
TF 3 Thigh, Constipation, Antihistamine.
TF 4 Knee.E, Hepatitis 1.
TF 5 Heel.E, Calf.E, Ankle.E, Uterus.C.
TF 6 Toes.E, Hypertension 1 (Depressing point).

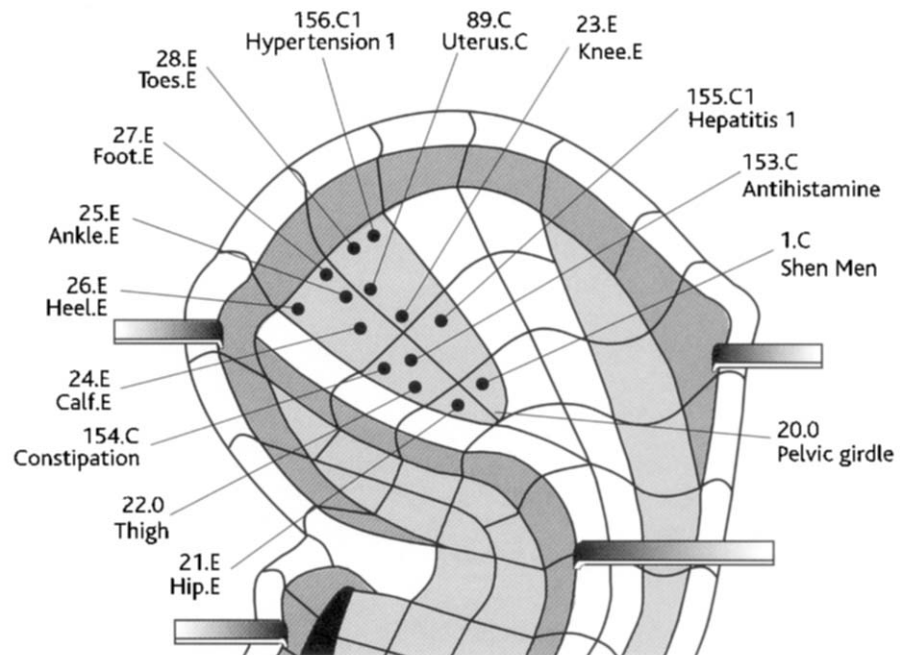


Figure 4.19 *Triangular fossa zones and corresponding auricular points.*

4.6.7 Tragus zones

- TG 1** Pineal Gland, Epiphysis, Point E, Eye Disorder 1 (Mu 1).
- TG 2** Tranquilizer point, Hypertension 2 (High Blood Pressure point), Valium Analog, Relaxation point, Mania point, Nicotine point, Corpus Callosum.
- TG 3** External Nose.C, Appetite Control (Hunger point), Adrenal Gland.C (Suprarenal Gland), Stress Control point, Corpus Callosum.
- TG 4** Vitality point, Viscera, Thirst point, Corpus Callosum.
- TG 5** External Ear.C, Apex of Tragus, Heart.C2 (Cardiac point).

4.6.8 Antitragus zones

- AT 1** Forehead, Thyrotropin (TSH), Eye Disorder 2 (Mu 2).
- AT 2** Temples, Asthma (Ping Chuan), Apex of Antitragus.
- AT 3** Occiput, Atlas, Occipital Cortex.

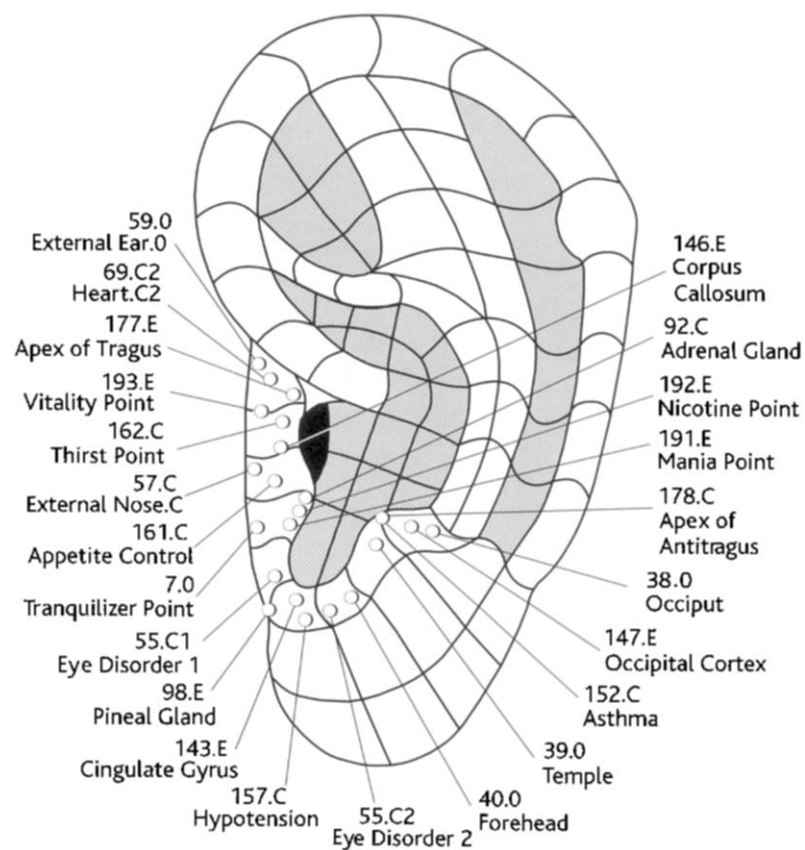


Figure 4.20 Tragus and antitragus zones and corresponding auricular points.

4.6.9 Subtragus zones

ST 1 Adrenocorticotropin (ACTH), Surrenalian point.

ST 2 Reticular Formation, Vigilance, Postural Tonus, Inner Nose.C (Nasal cavity).

ST 3 Master Oscillation point, Auditory Nerve, Deafness, Inner Ear.E, Mutism (Dumb), Reticular Formation point.

ST 4 Larynx and Pharynx.C, Skin Master point.

4.6.10 Intertragic notch zones

IT 1 Eye Disorder 1 (Mu 1), Cingulate Gyrus, Hypotension point.

IT 2 Endocrine point, Internal Secretion, Thyrotropins, Thyroid Stimulating hormone (TSH), Parathyrotropin.

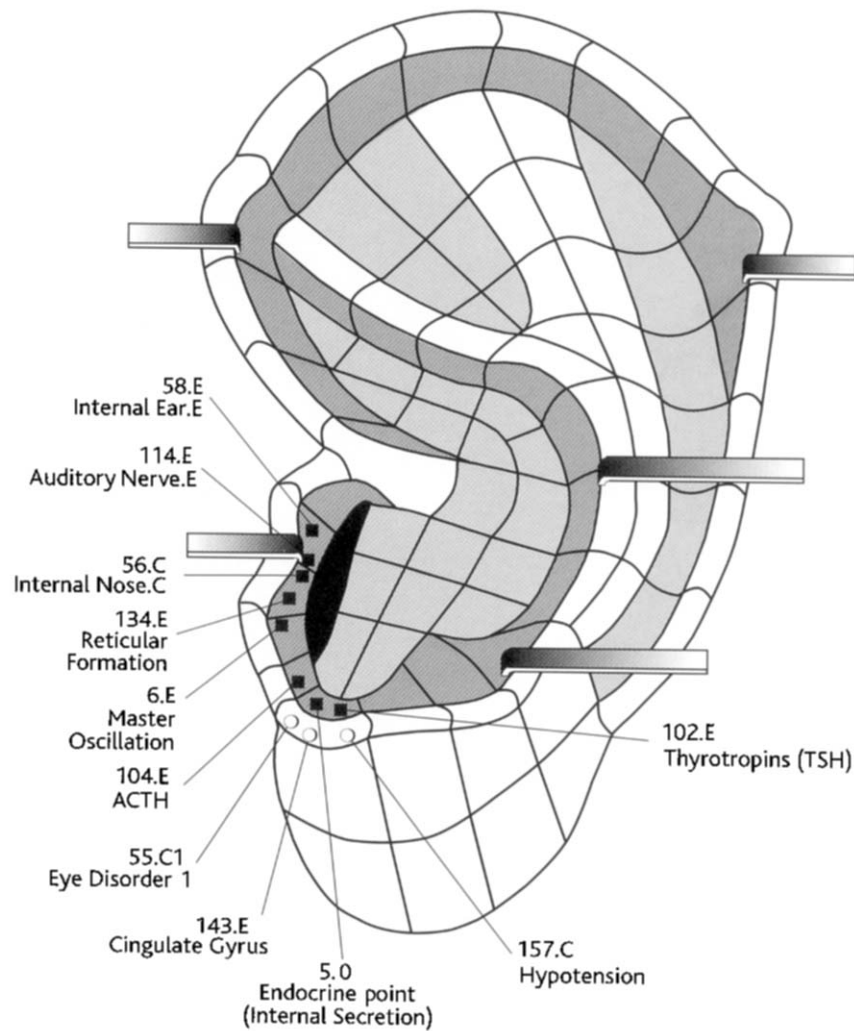


Figure 4.21 Subtragus and intertragic notch zones and corresponding auricular points.

4.6.11 Inferior concha zones

- IC 1 Anterior Pituitary, Adeno-Hypophysis, San Jiao (Triple Warmer), Prolactin.
- IC 2 Lung 2, Ipsilateral Lung, Anterior Hypothalamus.
- IC 3 Posterior Pituitary, Neuro-Hypophysis, Trachea, Larynx and Pharynx.E, Vagus Nerve, Bronchi.
- IC 4 Lung, Heart.C, Bronchi, Tuberculosis point.
- IC 5 Lung 1, Contralateral Lung, Posterior Hypothalamus, Toothache 3.
- IC 6 Mouth, Throat, Parasympathetic Sacral Nerves, Eye Disorder 3.
- IC 7 Esophagus, Eye Disorder 3 (new Eye point), Cardiac Orifice.
- IC 8 Spleen.C (left ear), Muscle Relaxation point.

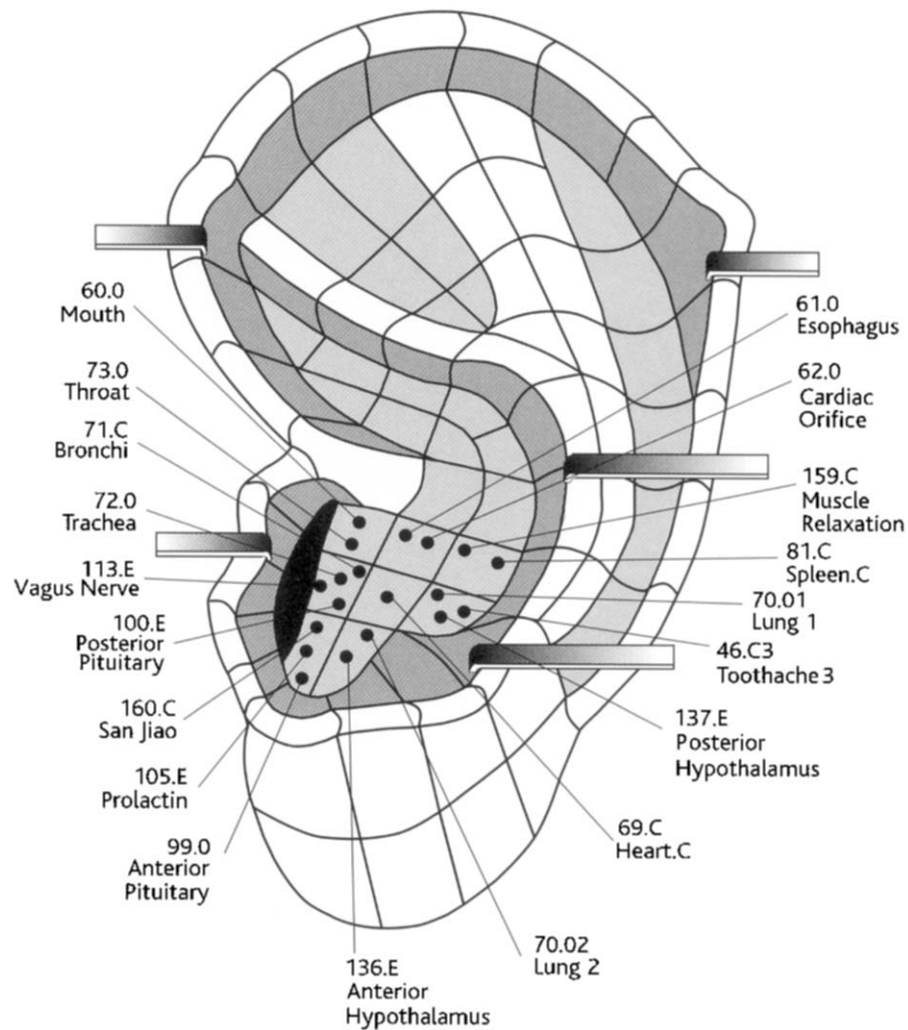


Figure 4.22 Inferior concha zones and corresponding auricular points.

4.6.12 Concha ridge zones

CR 1 Stomach.

CR 2 Liver, Cirrhosis, Hepatitis.

4.6.13 Superior concha zones

SC 1 Duodenum, Appendix.

SC 2 Small Intestines, Appendix, Omega 1, Alcoholic point.

SC 3 Large Intestines, Colon, Hypogastric Nerve.

SC 4 Prostate Gland.C, Urethra.E, Hemorrhoids.C2.

SC 5 Urethra.E, Bladder.

SC 6 Kidney.C, Ureter.C.

SC 7 Pancreas, Ascites point.

SC 8 Gall Bladder (right ear), Spleen.E (left ear).

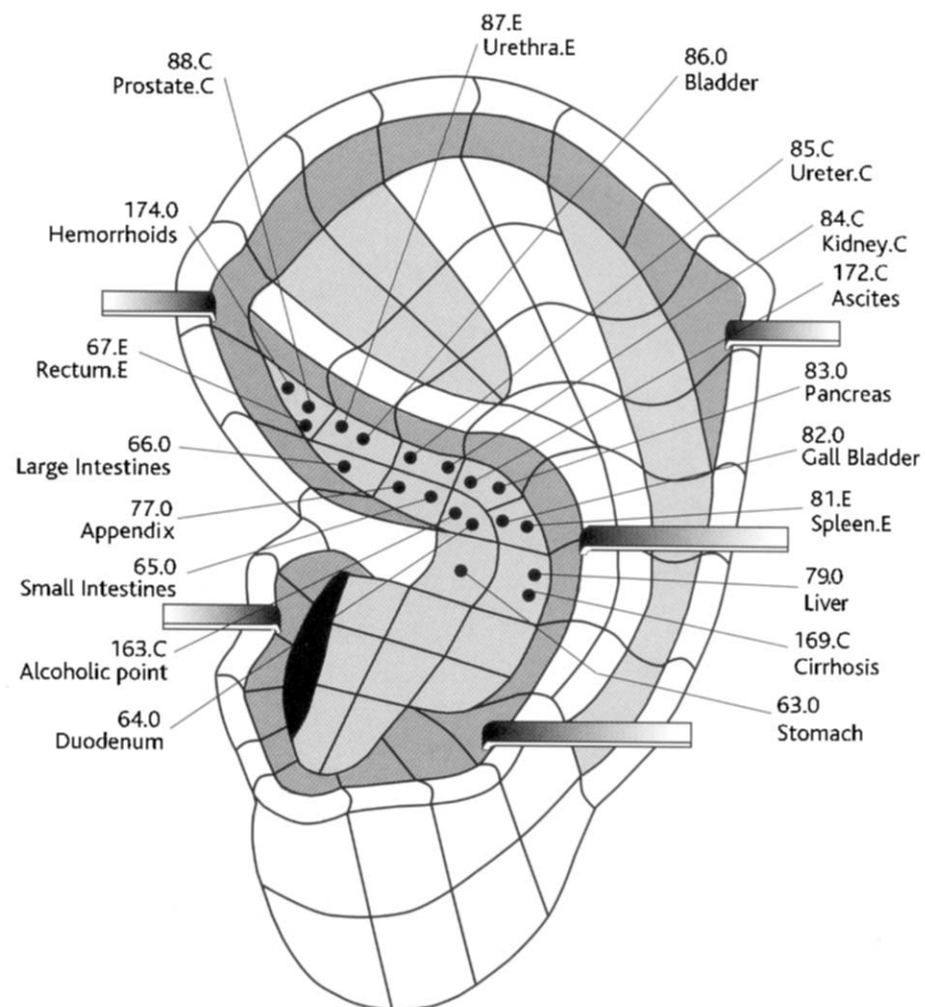


Figure 4.23 Superior concha and concha ridge zones and auricular points.

4.6.14 Concha wall zones

- CW 1** Gonadotropins (FSH, LH), Ovaries or Testes.C.
- CW 2** Thalamus point, Subcortex (Dermis), Thalamic Nuclei, Excitement point, Salivary Gland.
- CW 3** Brain (Diencephalon), Central Rim, Dizziness, Vertigo, Toothache 2.
- CW 4** Parathyroid Gland, Brainstem, Superior and Middle Cervical Sympathetic Ganglia.
- CW 5** Thyroid Gland.E, Wonderful point, Inferior Cervical Sympathetic Ganglia.
- CW 6** Mammary Gland.E, Thoracic Sympathetic Ganglia.
- CW 7** Thymus Gland, Thoracic Sympathetic Ganglia.
- CW 8** Adrenal Gland, Lumbar Sympathetic Ganglia.
- CW 9** Lumbar Sympathetic Ganglia.
- CW 10** Sacral Sympathetic Ganglia.

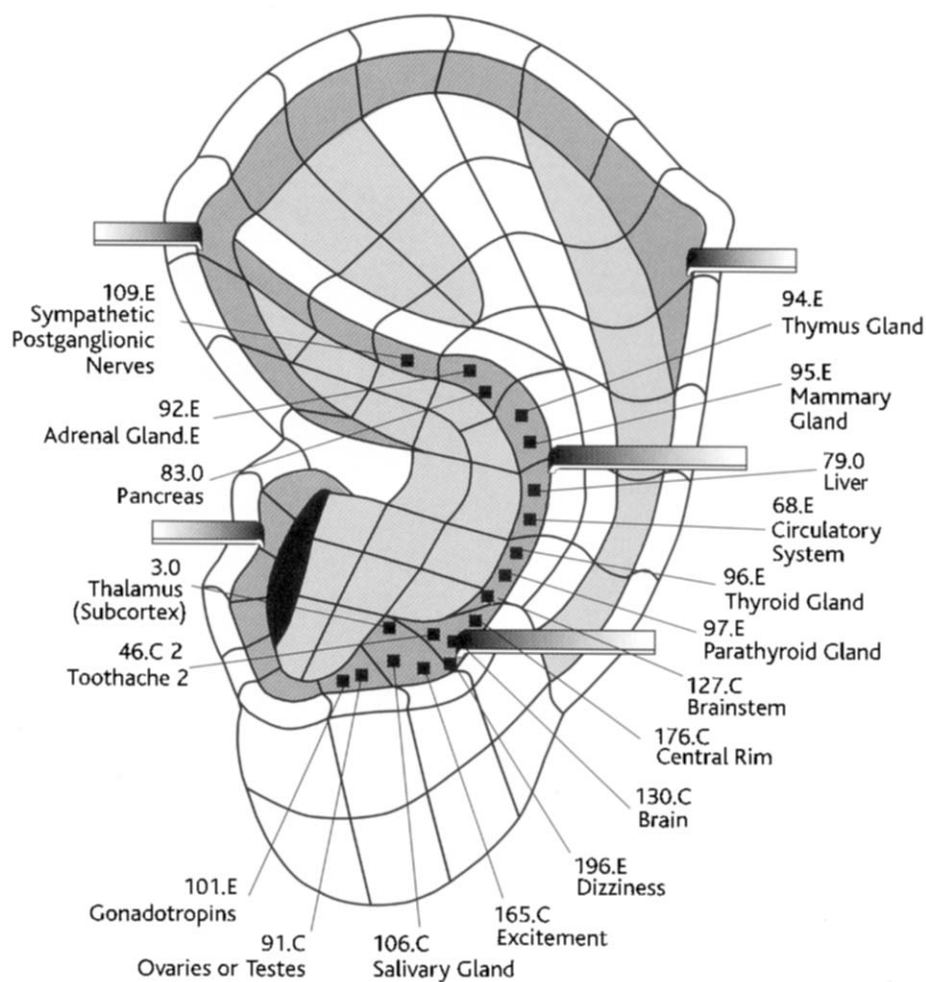


Figure 4.24 Concha wall zones and corresponding auricular points.

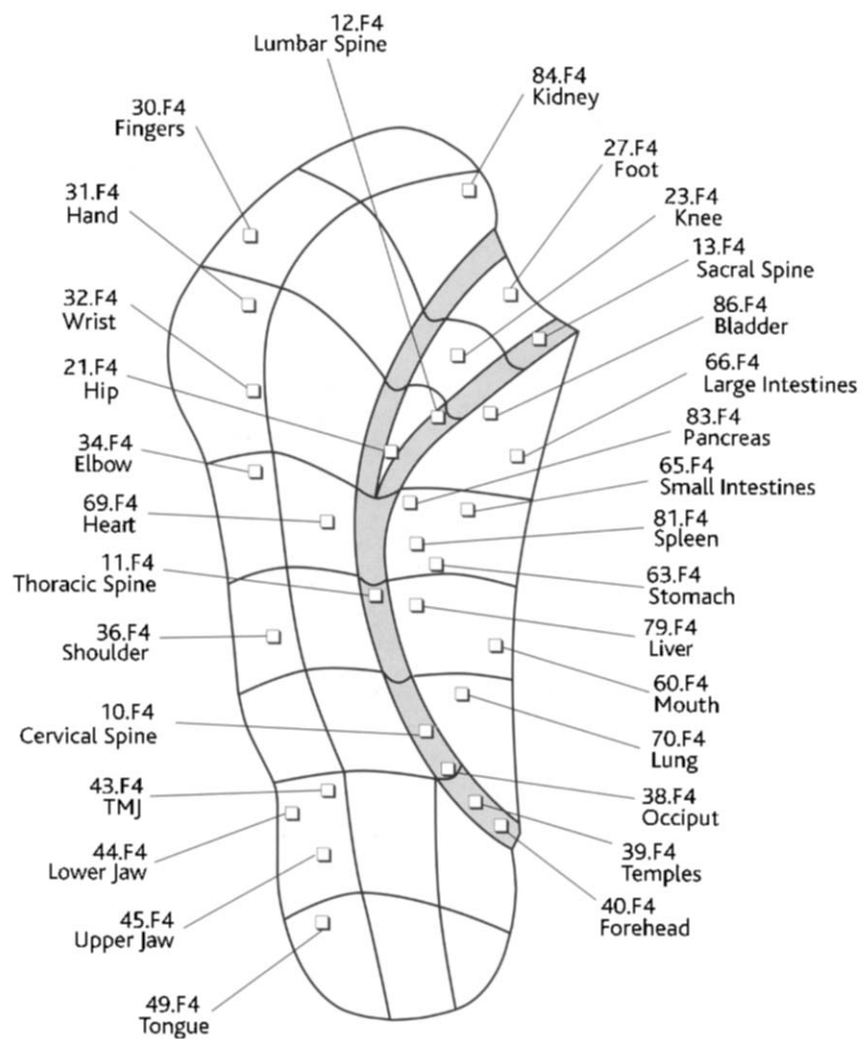
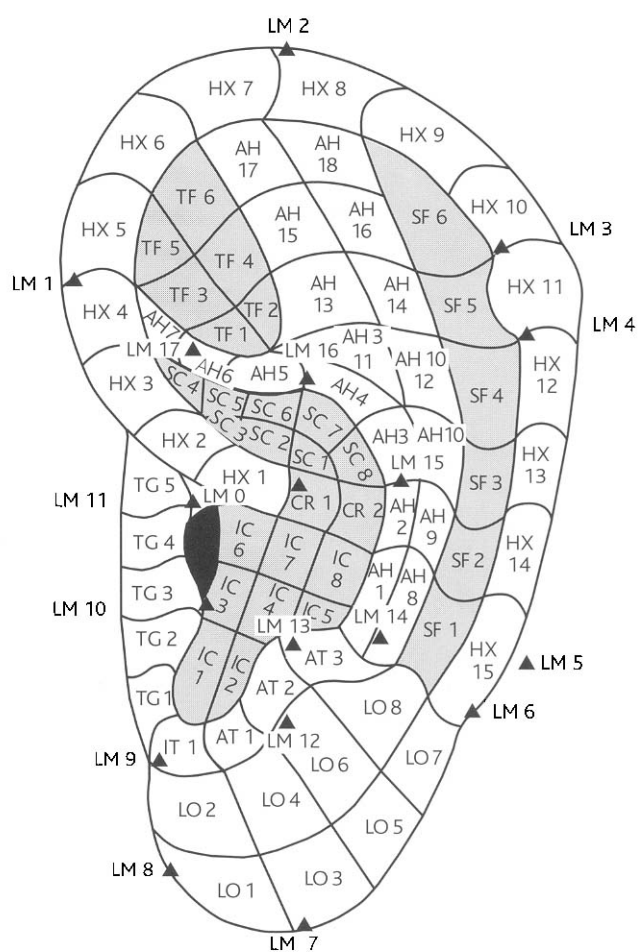


Figure 4.25 *Posterior auricular zones for the somatotopic body.*



LM	AZ	LM	AZ	LM	AZ
LM 0	HX 1 / CR 1	LM 6	HX 15 / LO 7	LM 12	AT 1 / AT 2
LM 1	HX 4 / HX 5	LM 7	LO 1 / LO 3	LM 13	AT 2 / AT 3
LM 2	HX 7 / HX 8	LM 8	LO 1 / Face	LM 14	AT 3 / AH 1
LM 3	HX 10 / HX 11	LM 9	IT 1 / TG 1	LM 15	AH 2 / AH 3
LM 4	HX 11 / HX 12	LM 10	TG 2 / TG 3	LM 16	AH 4 / AH 5
LM 5	HX 15	LM 11	TG 4 / TG 5	LM 17	AH 6 / AH 7

Figure 4.26 Relationship of auricular landmarks to auricular zones.

Auricular diagnosis procedures

CONTENTS

- 5.1 Visual observation of skin surface changes
- 5.2 Tactile palpation of auricular tenderness
- 5.3 Electrical detection of ear reflex points
- 5.4 Nogier vascular autonomic signal (N-VAS)
- 5.5 Auricular diagnosis guidelines
- 5.6 Assessment of oscillation and laterality disorders
 - 5.6.1 Physical tests for the presence of laterality disorders
 - 5.6.2 Scoring laterality tests
- 5.7 Obstructions from toxic scars and dental foci
- 5.8 Scientific investigations of auricular diagnosis

5.1 Visual observation of skin surface changes

Just as classical acupuncturists have observed distinct changes in the color and shape of the tongue and in the subtle qualities of the radial pulse, practitioners of ear acupuncture have emphasized the diagnostic value of visually examining the external ear (Kvirchishvili 1974, Romoli & Vettoni 1982). Though not as routinely observed as other diagnostic indicators of reactive ear points, prominent physical attributes of the auricular skin surface have been associated with specific clinical conditions. This visual inspection of the auricle should be conducted before the ear surface is cleaned or manipulated for other auricular procedures.

Dark colored spots: Shiny red, purple or brown spots at distinct regions on the ear surface usually indicate acute inflammations. Bright red tends to indicate an acute reaction that is painful, whereas dark red is seen with patients who have a long history of disease. Dark grey or dark brown can indicate tissue dedifferentiation or tumors could be found in the corresponding organ. These colored spots are not to be confused with ordinary freckles that do not necessarily indicate a diagnostic condition. If pressure is applied to these colored regions of the auricle, that spot is often painful to touch. Absence of these spots does not indicate the absence of any medical problem, but the occurrence of colored regions on the ear does suggest the high probability of some type of pathology in the corresponding part of the body. These colored spots only gradually go away when the health of the related body area improves.

White skin: White flakes, crusty scales, peeling skin, shedding and dandruff-like areas of desquamation always indicate a chronic condition. Whiteness surrounded by redness in the heart region indicates rheumatic heart disease. A close inspection of the ear of many patients indicates that there is a dryness on localized regions of the skin. If the auricle is cleaned, the white flaky regions will reappear within several days unless the corresponding condition is treated. If a treatment is effective for healing a given condition, flaky regions do not reappear.

Physical protrusions: Specific areas of the auricular skin surface can exhibit spot-like protrusions, slight depressions, rough thickened skin or blister-like papules protruding above the surface. The papules are small, circumscribed solid elevations of skin that could be colored red, white or a white papule surrounded by redness. Sometimes there is a dark grey papule.

Ear lobe creases: Diagonal folds in the skin over the ear lobe have been correlated with certain types of health disorders. Lichstein et al. (1974) and Mehta & Homby (1974) both published



Figure 5.1 Photograph of an ear lobe crease related to coronary problems.

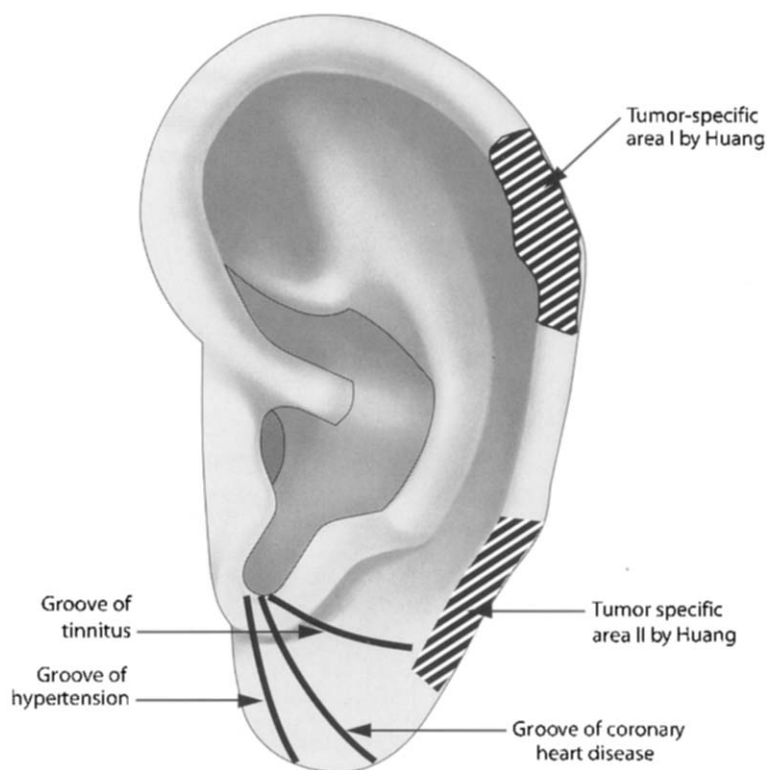


Figure 5.2 Representation of functional regions on the ear identified by Dr Li Chun Huang that have been associated with tumors and cardiovascular disorders.

studies in the *New England Journal of Medicine* that demonstrated significant correspondences between ear lobe creases and coronary problems. These double blind clinical studies showed that the presence of a crease running diagonally from the intertragic notch to the bottom of the lobe was more predictive of the occurrence of a coronary problem than either blood pressure level or serum cholesterol level. Huang (1996, 1999) has reported that other ear lobe creases are associated with the incidence of cancer.

5.2 Tactile palpation of auricular tenderness

The most readily available technique for determining the reactivity of auricular reflex points is to apply localized pressure to specific areas of the auricle. Patients are often very surprised that palpation of one area of the external ear is so much more painful than identical pressure applied to a nearby auricular region. Even more amazing is how the specific area of the ear had been previously recognized on ear reflex charts as indicative of pathological problems that the patient is experiencing.

General reactivity: Check broad regions of the external ear by using long stroking movements with your fingers and by applying generalized pinching pressure to given regions of the auricle. Determine areas of increased ear sensitivity of the patient to applied palpation with the thumb on the front of the ear and the index finger on the posterior side of the auricle. Ask if the patient notices whether one region is more tender than another. Monitor facial grimaces in response to your tactile pressure. Gently pinch the two sides of the auricle at different areas. It is important to develop tactile awareness of the different contours of the cartilaginous antihelix and the curving ridges around the helix. One should pull down on the fleshy ear lobe and feel throughout the depths of the concha. Note areas of skin surface that may be rough, bumpy, scaly, waxy, dry, oily, cold or warm. Especially sensitive patients experience tenderness from even light touching of broad areas of the auricle, and it is important to proceed slowly and gently with that individual. For less sensitive patients, more selective palpation can be applied with a fingernail.

Specific tenderness: Localized tender areas on the external ear are investigated with a long metal probe with a round, blunt smooth tip approximately 1.5 mm in diameter. Such probes are available from acupuncture, medical or dental equipment suppliers. Some art supply stores offer similarly effective tools for use by graphic artists, spring-loaded metal devices with a small, spherical tip. Firmly stretch out the auricle with one hand, while holding the probe with the other hand. Slowly glide the probe over the ear surface, stopping on small regions that the patient states are sensitive to lightly applied pressure. Palpate auricular areas that you suspect of being reactive by their correspondence to the parts of the body where the patient has reported pain or pathology. If several points on the ear are found to be tender, selectively examine each point to determine which is the most painful of the group. The degree of tenderness usually relates to the severity of the condition. The more sensitive the point, the more serious the disorder. Tenderness appears within 12 hours after a health problem occurs, becomes more sensitive if the condition worsens, and disappears within 7 days after the problem is corrected. There is a learned clinical skill in knowing the level of pressure needed to discriminate the most accurate point that exhibits the highest intensity of tenderness. Avoid overly stressing the patient with unnecessarily severe discomfort while conducting a tactile examination of the auricle.

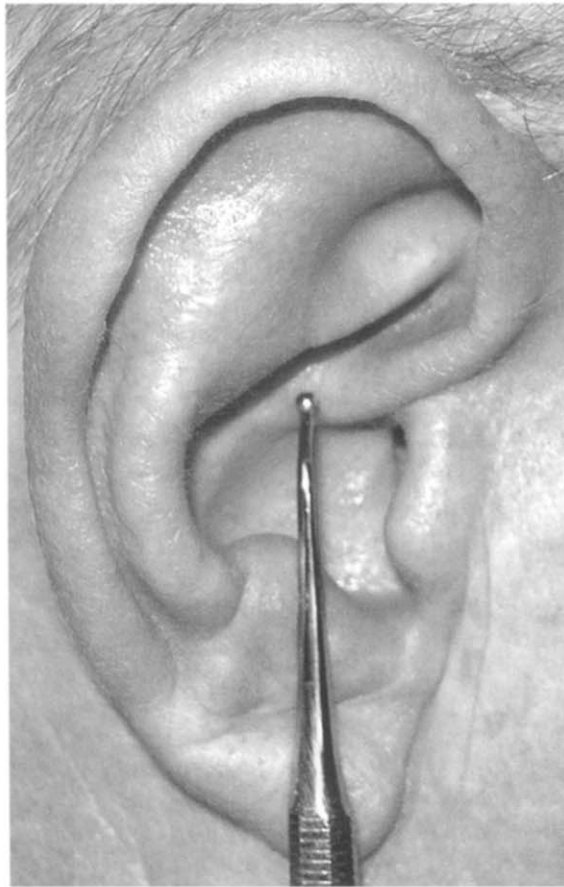
Behavioral monitoring: The practitioner should ask the patient to rate the degree of sensitivity that is felt at each point on the auricle when pressure is applied. Like the *ashi* points in body acupuncture, one could simply have the patient say either 'Ouch' or 'There' when a region is especially tender. Alternatively, one can use a range of numerical or verbal responses to indicate the degree of tenderness. A value of '1' or 'Slight' could indicate low level tenderness, '2' or 'Moderate' could indicate middle level tenderness, '3' or 'Strong' could indicate high level tenderness, and '4' or 'Very Strong' could indicate extremely high level tenderness. Spontaneous, facial grimace reactions or behavioral flinches in response to applied pressure should also be noted. A noticeable wince by the patient when you palpate a specific point on the ear may not be comfortable for the patient, but it is one of the best predictors that you are on an active reflex point that is appropriate for treatment. Nogier referred to the contraction of face muscles in response to auricular palpation as the 'sign of the grimace,' the most reliable indication that a 'real' ear reflex point has been located. The Chinese have developed a similar grading system where the degree of facial grimaces and verbal expressions is rated as follows: (-) for no pain, (+) for flinching or saying 'Ouch,' (++) for frowning, (+++) for wincing, and (++++) for dodging away or saying 'the pain is unbearable.'

5.3 Electrical detection of ear reflex points

Of all the methods for conducting auricular diagnosis, examination of the auricle with an electrical point finder is the most reliable and least aversive. Even small changes in electrodermal skin resistance can be determined by electrical detection procedures. For many practitioners, the main considerations are either the cost of a quality point finder or the extra time taken to first determine the most reactive points. While both of these objections have their validity, the increase in accuracy of discovering the most appropriate ear point for diagnosis and treatment of that client is worth the expense and effort. Familiarity allows even inexpensive but less sophisticated equipment to be used in an effective manner.

Clean skin: To examine the ear with an electrical point finder, first clean the ear with alcohol to remove sources of electrodermal skin resistance. High electrical resistance impairs the electrical point finder's ability to discriminate active ear reflex points from normal regions of the auricle. Sources of such unwanted skin resistance could include earwax, flaky skin, dust from the air, make-up from the face, or hairspray ingredients.

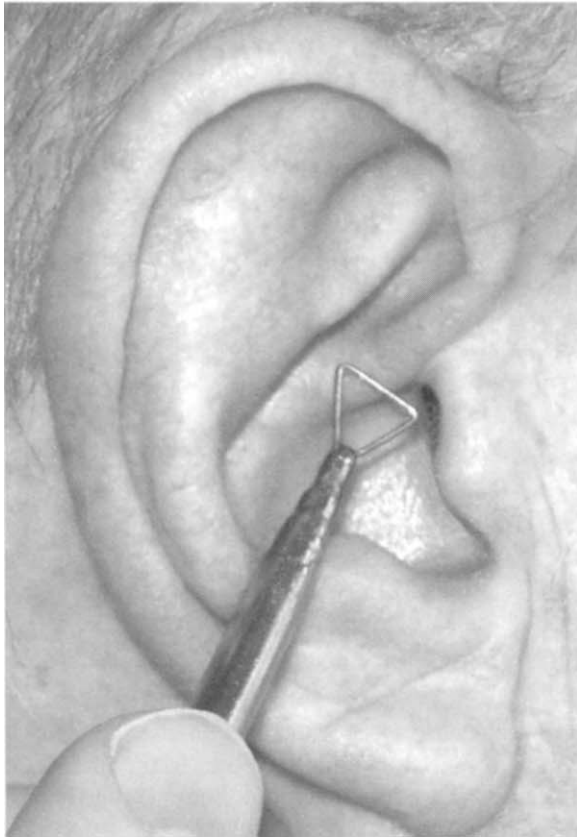
Point finder: Use an electrical point finder designed for the ear by both its size and its electrical amperage. Some probes designed for the body are inappropriate for the ear because they are too big or use too high an electrical detecting voltage. Ear points are smaller, closer to the surface and have lower electrodermal skin resistance than do body acupoints. The point finder should be a spring-loaded, constant pressure rod with a small ball at the end. Even more selective are concentric bipolar probes with a small rod in the middle and an outer barrel. Bipolar detecting probes use differential amplification of the voltage difference between the two adjacent electrodes. This procedure allows for maximum discrimination of the difference in electrodermal



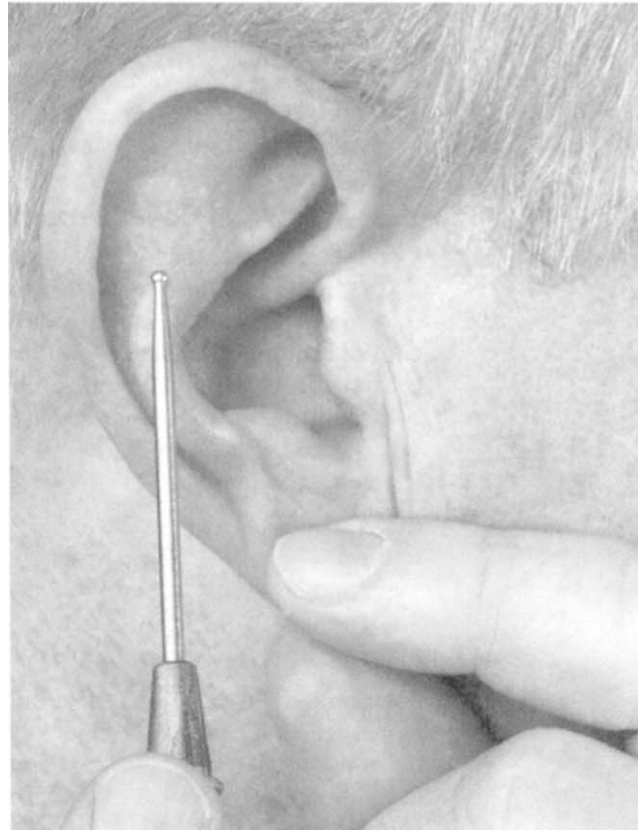
A



B



C



D

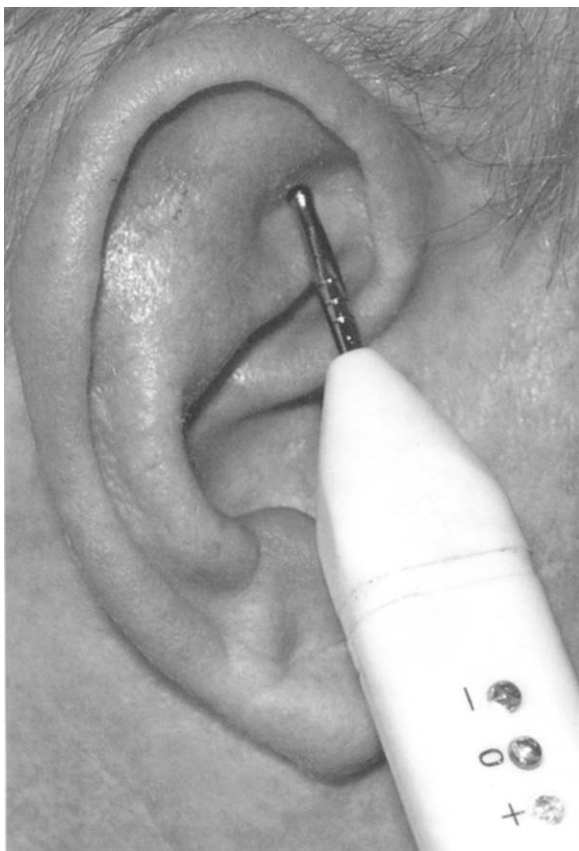
Figure 5.3 Pressure palpation devices that are used on the auricle are shown on Point Zero (A) and the Sympathetic Autonomic point (B). A triangular stylus can be used to discern the indentation at landmark zero (C), and a spring-loaded stylus can maintain constant pressure while detecting reactive ear points (D).

skin resistance between adjacent skin areas. The auricular probe is applied to the ear by the therapist, while another lead is held in the patient's hand.

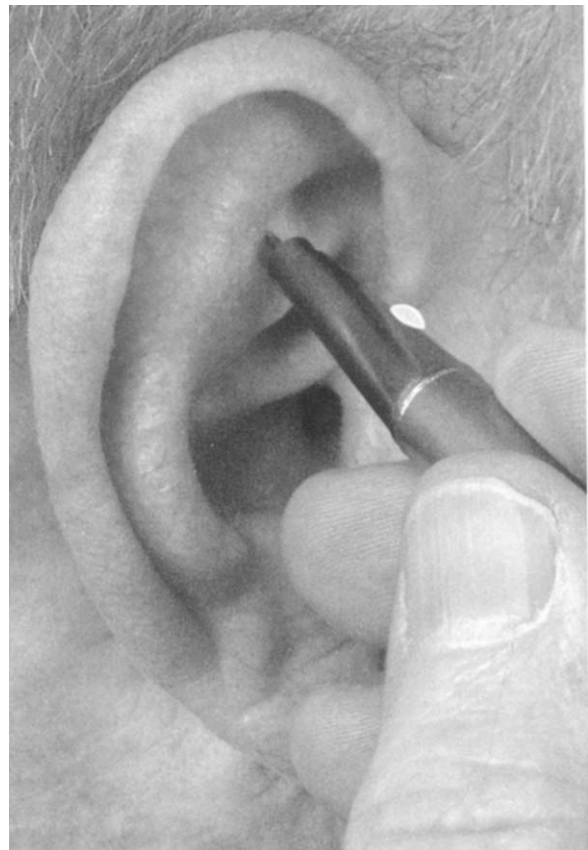
Electrodermal measurement: The practitioner monitors decreased skin resistance, or inversely stated, increased skin conductance, as the probe is glided over the skin with one hand while the other hand stretches out the auricle. Electrodermal activity has also been designated as the galvanic skin response (GSR), a measure of the degree of electrical current that flows through the skin from the detecting probe to the hand held neutral probe. Electricity must always flow between two points, thus for some point finders that do not utilize a hand held probe, it is imperative that the practitioner touch the skin of the patient at the ear. Usually a light or a sound from the point finder indicates a change in skin conductance. Depending on the equipment's design, a change in the electrodermal measurements leads to a change in auditory or visual signals to indicate the occurrence of reactive auricular points.

Threshold settings: Some equipment requires an individual threshold to be set for each patient before assessing other ear points. To set the threshold, place the probe on the Shen Men point or Point Zero, increase the detection sensitivity until the sound, lights or visual meter on the equipment indicate that there is high electrical conductance. Next, slightly reduce the sensitivity until the Shen Men point or Point Zero is only barely detected. It should be possible to find these two master points in all persons examined, and they are usually reactive because they indicate the effects of everyday stress in a person's life. Shen Men and Point Zero may not be the most electrically active points on a patient's ear, but they are the two points most consistently identified in most people.

Probe procedures: Slowly glide the ear probe across all regions of the auricle to determine localized areas of increased skin conductance (decreased skin resistance). Moving the probe too quickly can easily miss a reactive ear point. Applying too much pressure with the probe can create false ear points merely because of the increased electrical contact with the skin. Hold the auricular probe perpendicular to the stretched surface of the ear, and gently glide the probe over the ear,



A



B

Figure 5.4 Different electrical point finder devices have been developed in China (A) and in Europe (B). As the probe glides over the surface of the ear, changes in electrodermal skin conductance are shown by a variation in the rate of a flickering light or in the frequency of sound feedback.

using firm but not overly strong pressure. Do not lift and poke with the probe. The other hand supports the back of the patient's ear. It is important to follow the contours of the auricle while applying the probe, checking both hidden and posterior surfaces as well as the front external surface of the auricle. The back of the ear is often less electrically sensitive than the front of the auricle, but the posterior side of the ear is usually more tender to applied pressure than is the front. To more readily find an ear point on the posterior surface, first detect the point on the front of the auricle, then put a finger on that spot and bend the ear over. It is now easier to search the back of the ear for the identical region on the anterior and the posterior surface.

5.4 Nogier vascular autonomic signal (N-VAS)

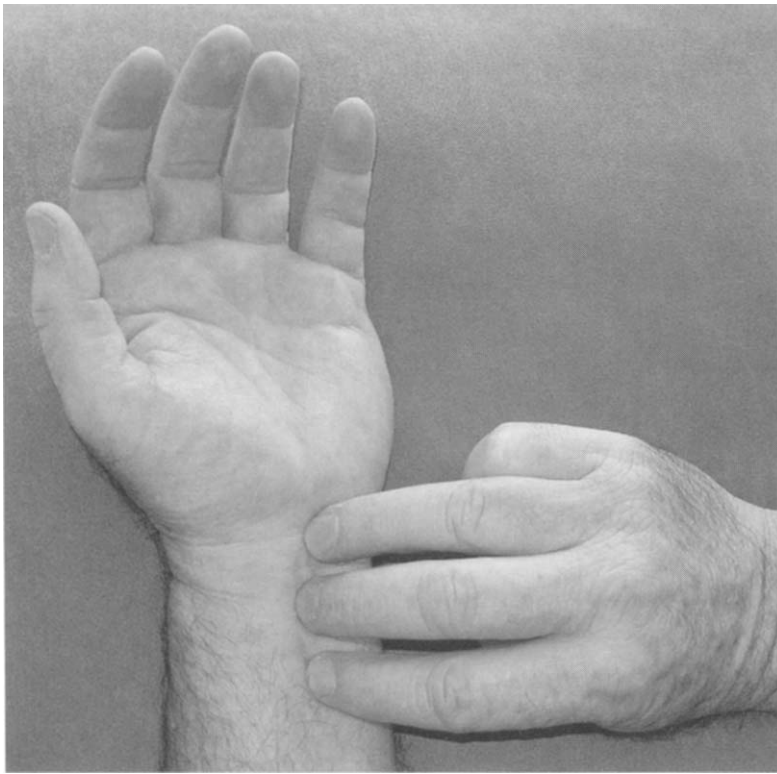
The auricular cardiac reflex was first described by Paul Nogier (1972), and was only later renamed the Nogier vascular autonomic signal (N-VAS). The practitioner touches certain parts of the external ear while monitoring the radial pulse for either a decrease or an increase in pulse amplitude. The pulse may seem to diminish and collapse, or it may seem to become sharper and more vibrant. The modification of the pulse can occur anywhere from the second pulse beat up to the tenth pulse beat following auricular stimulation. This change in the N-VAS can last for 2 to 4 pulse beats. The stimulus could be tactile pressure to the skin, but it could also be provided by holding a magnet over the ear surface, by pulsed laser stimulation, by placing a colored plastic filter over the auricle, or by using a slide that contains a specific chemical substance. The art of this technique is in learning to feel the subjective subtleties of the radial pulse. Classical pulse diagnosis as practiced in Oriental medicine uses the three middle fingers lightly placed on the radial artery at the wrist (see Figure 5.5A). The Nogier pulse technique requires placement of only the thumb over the radial artery (see Figure 5.5B, 5.5C). Rather than feeling for steady state qualities of the pulse, N-VAS is a change in pulse amplitude and pulse volume that occurs in response to stimulation of the auricle. Mastery of this technique requires many practice sessions with someone already skilled in the procedure.

Ackerman (1999) has proposed that N-VAS exists as a specific autonomic biophysical response system constituting one of the principal coordinating and integrating systems of the body. At the same time, N-VAS is a pathway by which the central nervous system receives information and modulates sympathetic outflow for precise modulation of the blood vascular system. N-VAS is thought to occur in every artery of the body and is expressed through changes in smooth muscle tone and blood influx. This vascular system is controlled by endothelium-derived factors, mainly by the vasodilator nitric oxide (NO). NO acts directly on vascular smooth muscle cells to regulate vascular tone. The release of NO is modulated by wall shear stress, frequency of pulsatile flow, and amplitude of pulsatile flow.

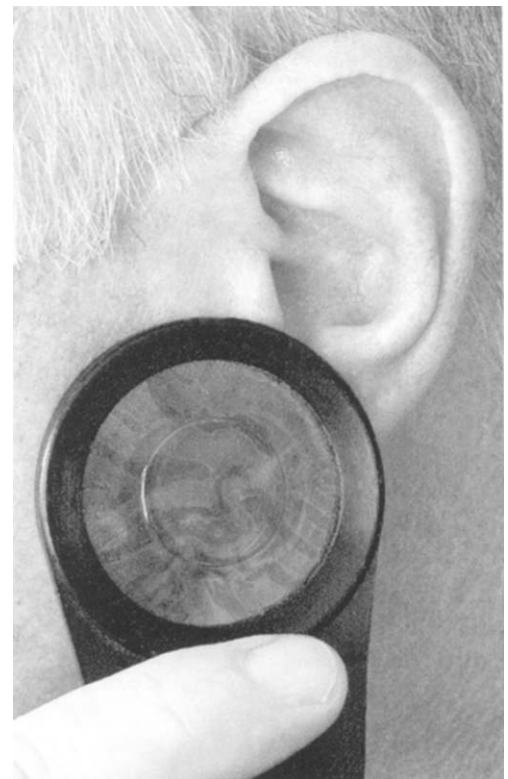
From the standpoint of information theory, the autonomic controlled blood vascular supply could be represented as an analog system, contrary to the neurons that operate as a digital system consisting of on-or-off neural impulses. As an analog system, the vascular system is regulated by the strength of flow, wavelength variations in its strength and the direction of flow. The adaptive capability of the vascular system results from mechanical stimuli such as wall shear stress and transmural pressure that is modulated by vascular muscle tone.

5.5 Auricular diagnosis guidelines

Ear as final guide: The auricular charts depicting different organs of the body are somatotopic maps that indicate the general area in which a particular ear reflex point could be found. However, it is the measured reactivity of specific sites on the auricle which serves as the best determinant of the exact location of an appropriate ear point. By monitoring the heightened tenderness to applied pressure and the increased electrical conductance at a specific locus, one is able to select the most relevant ear points that represent body pathology. The ear charts indicate a territory of the auricle where the correct point may be found, but there are several possible spots within that region to choose from. Only the most reactive ear points definitely represent the actual location of the somatotopic site. If there is no reactive ear point in a region of the auricle, there is no body pathology indicated for treatment. If there is no pathology in the corresponding body area, there will be no tenderness or electrical activity at the related microsystem point on the ear. When choosing between different ear points to treat, whether it is in the Chinese system or the European system, whether it is in the Nogier first phase or second phase, this fundamental principle, that the ear itself is the final guide, should always be followed.



A



C



B

Figure 5.5 In Oriental pulse diagnosis (A), three fingers are placed on each wrist to detect differences in the position, depth and qualities of the steady pulse. Practitioners of auricular medicine in Europe hold the wrist at only one position (B) and feel for changes in the amplitude and waveform of the radial pulse in response to stimulation of the ear by light passing through a filter (C).

Alternative points within an area: The actual auricular point consists of a small site within a general area of the auricle indicated by the somatotopic auricular map. The ear reflex point representing a particular part of the body can be found in one of several possible locations within this area. In some individuals, the ear point will be found in one auricular location, whereas in other persons, it will be found in a nearby but different auricular location. The location of a point may change from one day to the next, thus it is essential that one checks for the ear point that exhibits the highest degree of reactivity at the time someone is examined.

Ipsilateral ear reactivity: In 80–90% of individuals, reactive ear reflex points are found on the same ear as the side of body where there is pain or pathology. In the remaining 10–20% of cases, the representation is contralateral, and the most active ear point is found on the opposite side of the body. Since most clinical problems have a bilateral representation, it is common to treat both the right and the left ears on a patient. If treating just one ear of a patient, it is usually best to stimulate the ear which is ipsilateral to the side of the body with the greatest degree of discomfort. Those few persons who exhibit contralateral auricular representation of a body problem are referred to as lateralizers or oscillators, and need special consideration.

5.6 Assessment of oscillation and laterality disorders

Persons who have difficulties with neural communication between the left and the right sides of the brain are referred to as having problems with laterality or oscillation in the European school of auriculotherapy. This crossed-laterality condition is sometimes identified as ‘switched’ or ‘cross-wired’ in certain American chiropractic schools. It is as if the two cerebral hemispheres are competing for control of the body rather than working in a complementary fashion. Laterality problems are typically found in the 10–20% of the population which exhibits higher electrically conductivity at ear reflex points on the contralateral ear than on the ipsilateral ear. Usually these patients show high electrical conductance at the Master Oscillation point, but not everyone who has an active Master Oscillation point is an oscillator. Oscillation can also be due to severe stress or dental foci. The Master Oscillation point in patients with laterality disorders needs to be corrected with acupressure, needling or electrication stimulation before that patient can receive satisfactory medical treatment.

It is believed that many functional disorders are due to dysfunctions in the interhemispheric connections through the corpus callosum, the anterior commissure and the reticular formation of the brain. There is inappropriate interference of one side of the brain by the other side of the brain. Global relationships that should be processed by the right cerebral hemisphere are analyzed by the left cerebral cortex. Verbal information that should be processed by the left cerebral hemisphere is processed by the right cerebral cortex. Such individuals frequently exhibit dyslexia, learning disabilities, problems with orientation in space and are susceptible to immune system disorders. People with laterality problems report that they often had problems in elementary school with poor concentration, stuttering, spelling mistakes, attention deficit, and feeling ‘different’ from others. As adolescents, they experienced frequent anxiety, hyperactivity, gastrointestinal dysfunctions and they often misgauged distances or tripped over things. One way a person may recognize that they are an oscillator is that they have overly sensitive or rather unusual reactions to prescription medications. Dysfunctions of laterality and oscillation are found more often in left-handed or in ambidextrous persons. The proportion of dyslexia and other learning disorders is significantly higher in left-handers than in right-handers. Laterality problems are rarely noticeable before the age of two, but cerebral organization begins to be definitely lateralized by the age of seven, the ‘age of reason.’ It is from this age that disorders of laterality may first appear.

5.6.1 Physical tests for the presence of laterality disorders

Hand writing: Have a person write something. Which hand did they use, the right hand or the left hand? Many individuals were trained to write with their right hand when they were children, even though they were naturally left handed. For that reason, some of the following tests may be a more authentic appraisal of their actual laterality preference.

Hand clap: Have a person clap their hands as if they were giving polite applause at a social function, with one hand on top of the other hand. Which hand is on top?

Hand clasp: Have a person clasp their hands, with the fingers interlocked. Which thumb is on top?

Arm fold: Have a person fold their arms, with one arm on top of the other. Which arm is on top? The hand that touches the crease at the opposite elbow is considered the arm that is on top.

Foot kick: Have a person pretend to kick a football. Which foot do they kick with, the right or the left foot?

Eye gaze: Have a person open both eyes and then line up the raised thumb of their outstretched hand toward a small point on the opposite wall. Alternatively, have the person make a circular hole by pinching their middle finger to their thumb, then look at the spot through the hole. In either case, next have them close first one eye, open again, then close the other eye. Closing one eye produces a greater shift in alignment with the object on the opposite wall than closing the other eye. If the object shifts more on closing the right eye, then the right eye is dominant; if the point shifts more on closing the left eye, then the left eye is dominant. Alternatively have someone notice which eye they would leave open and which they would close if they were to imagine shooting a target with a rifle. The eye used for aiming the rifle would be the dominant eye.

5.6.2 Scoring laterality tests

Each of the above behavioral assessments is scored as either right or left. If a person scores 4 or more on the left side, that individual is likely to have a laterality dysfunction. They might also have problems with spatial orientation, dyslexia, learning difficulties, allergies, immune system disorders and unusual medical reactions. Laterality does not necessarily produce a medical problem, as many individuals learn to compensate for this imbalance over the course of their life time. At the same time, they may have certain vulnerabilities that conventional medicine does not allow for. The dosage and incidence of side effects of Western medications are based on the average response by a large group of people, but do not take into account the idiosyncratic reactions of unusual individuals. Persons with laterality dysfunctions must be very careful about the treatments that they are given because of their high level of sensitivity.

5.7 Obstructions from toxic scars and dental foci

In addition to idiosyncratic problems attributable to laterality disorders, other factors may also interfere with subsequent pathologies that have a longstanding nature. The failure to completely heal from one condition may act as a source of disequilibrium that blocks the alleviation of newer health problems. Two such sources of obstruction are (1) toxic scars from old wounds or previous surgeries, and (2) damaged tissue from invasive dental procedures. Toxic scars could occur on the skin surface or in deeper structures, creating a region of cellular disorganization that emits abnormal electrical charges. This pathological tissue generates a disharmonious resonance causing chronic stress and interference with general homeostatic balance. Abnormal sensations, such as itching, numbness, pain or soreness, often occur in the region of toxic scars. Besides checking the region of the external ear that corresponds to a body area that was previously injured, also examine the skin disorder region of the external ear. Dental procedures, such as removing decayed teeth or drilling a root canal, are beneficial for dental care, but they may also leave a dental focus that interferes with general health maintenance. Dental foci may follow dental surgery, be related to bacterial foci under a filling, or result from an abscess or gum disease. There may also be pathogenic responses to mercury fillings. Patients themselves are often unaware of having such a disorder, since the consequence of these previous scars may not necessarily be experienced at a conscious level. These pathological regions may be electrically detected at the auricular area that corresponds to the site of the toxic scar or dental focus. They may also be discovered by monitoring the N-VAS response to stimulation of the affected region of the body. Only when this toxic scar region is successfully treated can other healthcare procedures be effective.

Sometimes one's own personal experience is the most impressive source of confirmation for accepting a new concept in healthcare. When I was an adolescent, I dislocated my right shoulder during a skateboard accident. I also had my wisdom teeth removed by an oral surgeon. As I became an adult, the chronic stress of everyday living was most strongly manifest as discomforting shoulder aches, but I never experienced jaw pain. Frequent massages, chiropractic adjustments, acupuncture sessions and auriculotherapy treatments all produced temporary relief of the shoulder pain, but there was no stable resolution. My ears were recently examined by a German physician who practices auricular medicine. Dr Beate Strittmatter revealed a toxic scar at the location of the wisdom tooth at the left lower jaw. The insertion of a needle at a point on the left ear lobe which corresponded to the left mandible was added to stimulation of the Shoulder point on the right auricle. This treatment of the dental obstruction as well as the corresponding Shoulder point on the auricle led to an immediate correction of a shoulder condition that had been a problem for years.

5.8 Scientific investigations of auricular diagnosis

Auricular diagnosis is mostly used for detection of active points on the ear which need to be treated, rather than as a primary means of diagnosing a patient. Nonetheless, findings from auricular diagnosis can reveal a clinical problem missed by other medical examination procedures, or verify a problem only suspected from other diagnostic tests. Physical auricular reactions may appear before the body symptoms appear or reveal a permanent reactive mark of pathology in the corresponding body organ. The auricular points change with the various stages of an illness or injury, including the initial occurrence, continued development, and ultimate resolution. Reactive auricular points reflect the ongoing information about a disease, not only the health condition occurring in the present. It can indicate the state of an illness or injury in the past or in the near future. Positive auricular points may have a different appearance in different stages of a diseases and indicate when a pathology is completely healed.

At the 1995 International Symposium on Auricular Medicine in Beijing, China, several scientific studies indicated that auricular diagnosis has been used to detect malignant tumors, coronary heart disease and pulmonary tuberculosis. One study found that 36 of 79 cases of colon cancer showed dark red capillaries in the superior concha, 54 of 78 cases of lung cancer revealed brown pinpoint depressions scattered in patches in the inferior concha, and 16 of 31 cases of uterine cancer showed spotted depressions in the internal genitals area of the concha wall. No such changes in the color or the morphology of corresponding ear points were found in normal control subjects. Another investigation showed that 116 patients out of 1263 hospitalized patients had reactive Liver points on the ear. Further examination of these 116 patients revealed 80 cases of hepatitis. Still another study found that of 84 cases diagnosed with ultrasound to have gall bladder disease, 81% showed a dark red region in the gall bladder area of the auricle. In 93% of cases of chronic gastritis, the stomach and duodenum auricular regions appeared white, shiny and bulgy when there was no acute infection. In contrast, these two points appeared deep red when there was an acute gastric disorder. The results of using pressure or electronic detection were essentially the same as visual observation.

Dr Michel Marignan (1999), of Marseilles, France, reported on his investigations with digital thermography of the ear at the International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine (ICCAAAM). Skin temperature radiations from the auricular surface were measured with an infrared camera. The photography equipment was cooled with liquid nitrogen and a computer was especially adapted for this procedure. The temperature variations of radiation across the human ear changed in response to stimulation of various areas of the ear pavilion. Marignan suggested that reactive auricular points are due to microscopic thermal regulation. The evidence of correspondence between anatomical localization and the auricular thermal reaction provided a scientific basis for auriculotherapy. At the same ICCAAM conference, Edward Dvorkin (1999) of Israel examined 'active' auricular points from skin samples obtained in humans undergoing surgery. Some skin samples correspond to ear points that were detected before surgery by monitoring the Nogier vascular autonomic signal and by electrical detection. Small pieces of skin were taken from healthy tissue at the surgical edges of auricular regions corresponding to the Thalamus point, the Allergy point, the Antidepressant point and the Aggressivity point. A neutral part of the auricular skin of each patient was also taken for comparison examination. Electron microscopy examination of ultrathin sections of all the studied zones revealed the following findings:

- thick nerve bundles with myelinated as well as non-myelinated nerve fibres;
- solitary thin bundles of non-myelinated nerve fibres;
- mast cells related to blood vessels and nerves;
- numerous veins without innervation;
- solitary arteries without innervation.

However, no specific ultrastructure or morphological substratum was found in Dvorkin's study for 'active' ear reflex points compared to neutral ear points. The distinctive characteristics of active auricular points must thus be based on physiological rather than anatomical structural differences. The research by Marignan suggests that peripheral sympathetic nerve control of blood vessels supplying the auricle can better account for active auricular points.

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- 6.2 Ear acupuncture needling techniques
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- 6.13 Precautions associated with auriculotherapy
- 6.14 Hindrances to treatment success
- 6.15 Overall guidelines for auriculotherapy treatments

6.1 Auricular acupressure

1. General massage: Stroke broad regions of the external ear by rubbing the thumb against the front of the auricle, while the tip or length of the index finger is held against the posterior side of the ear for support. First stroke down the tragus with the thumb, then spread the strokes across the ear lobe to induce a general calming effect. Next, stroke from the beginning of the helix root at landmark zero and rise up and around the curving helix, ending at the base of the helix tail. Proceed by stroking across the antihelix tail, beginning at the base, then work up the antihelix. In each case massage across the inner ridge of the antihelix outward toward the scaphoid fossa and helix rim. End with gentle strokes throughout the superior concha, concha ridge, and inferior concha. If patients are taught to do this procedure on themselves, their index finger is used on front of the ear and their thumb is placed on the back of the ear.

2. Specific massage: Apply a metal stylus with a small ball at the end (see Figure 6.1) to the auricle. Palpate the most reactive ear point determined during auricular diagnosis. You could also use the eraser end of a pencil or a fingertip. Hold the auricle taut with the opposite hand. Micromassage of an ear point may first lead to an increase in pain at that point, but the tenderness can gradually diminish and disappear as the massage is continued. The direction of massage can vary. Adopt the one that is least tender and most tolerable for the patient. For neck, back and shoulder tension, apply firm but gentle pressure on the antihelix tail, antihelix body, inferior crus and scaphoid fossa. For headaches, specific pressure is applied to the antitragus and antihelix tail. Visceral dysfunctions are treated with the stylus probe pressed against specific regions of the concha.

3. Auriculopressure techniques: Massage each tender ear point for 1 to 2 minutes, repeating the process once or twice daily. Apply massage with a circling motion, first noticing which direction produces the least discomfort. A more longitudinal massage along the outer helix or antihelix reduces muscle tension and sympathomimetic excess excitation. Descending longitudinal strokes tend to tonify muscles and excite sympathetic activity, while ascending longitudinal strokes tend to relax muscles and enhance parasympathetic tone. A radial centrifugal massage away from landmark zero across the concha enhances parasympathetic sedation and visceral relaxation.

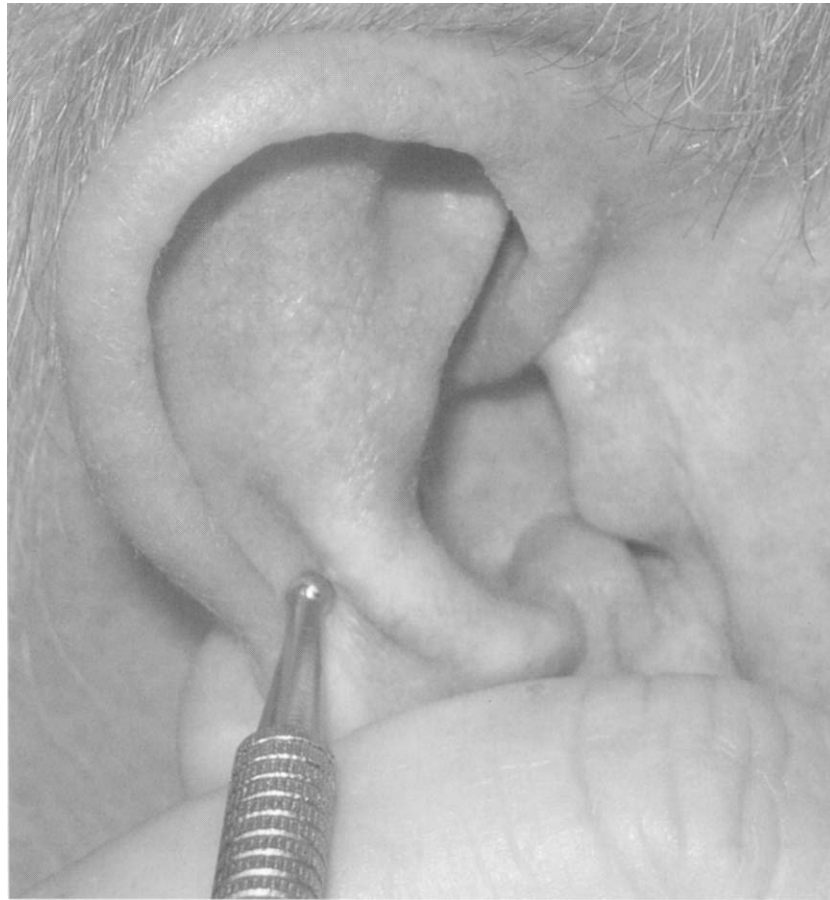


Figure 6.1 Ear acupressure massage can be activated with a metal stylus applied to specific parts of the auricle while the opposing hand provides back pressure.

Massaging the tragus downward and outward, from superior to inferior, can augment cellular reactions and interhemispheric communication, whereas massaging the tragus upward and inward, from inferior to superior, tends to slow down metabolism and calm interhemispheric communication between the two sides of the brain.

6.2 Ear acupuncture needling techniques

1. **Clean ear:** After conducting any visual inspection necessary for auricular diagnosis, clean the ear with alcohol. This sterilizes the skin and removes wax, oils, sweat, grease, make-up and hairspray. Besides its antiseptic value, removing oily substances from the skin surface of the ear improves the ability to detect auricular points with electrical point finders.
2. **Prepare needles:** Unpack at least 5 sterilized 0.5 inch (15 mm) needles, to be inserted ipsilaterally or bilaterally. Shorter needles are preferred, since longer needles tend to fall out too easily. Thicker needle diameter sizes of 30 gauge (0.30 mm), 32 gauge (0.25 mm) or 34 gauge (0.22 mm) are preferred for the ear, since thinner needles tend to bend on insertion. Stainless steel needles are appropriate for most clinical purposes, although better results are sometimes obtained by using gold needles on one ear and silver needles on the opposite ear. Knowledge of the Nogier vascular autonomic signal is necessary to determine whether gold or silver needles are more appropriate for which ear.
3. **Determine treatment plan:** Examine the specific treatment plans listed in the last section of this text to select the auricular points which are most appropriate for the condition being treated. A typical treatment includes the corresponding anatomic points, selective master points and supportive points listed for that condition. You should not treat all of the ear points listed, only those which are the most tender and show the highest electrical conductance.
4. **Select ear points:** Detect 2 to 6 points on each ear with an electrical point finder, selecting only the most reactive points. The point finder should be spring-loaded and will leave a brief

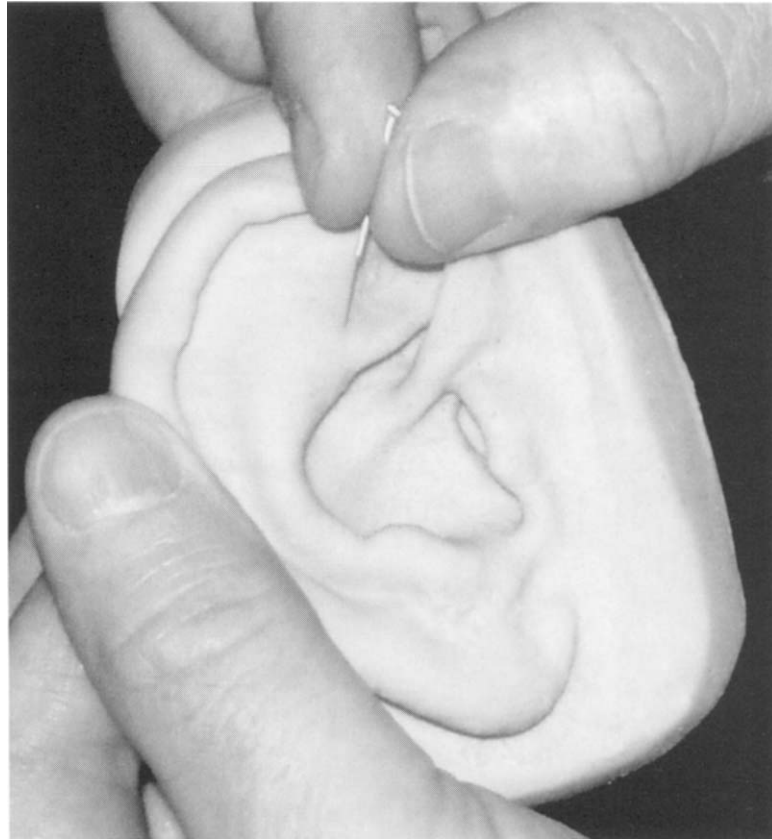


Figure 6.2 *Needle insertion techniques demonstrated on a rubber model ear.*

indentation at the ear point if stronger pressure is applied when a reactive ear point is detected. Use that indentation for identification of the region of the auricle where the needle should be inserted. The order in which auricular points are needled depends more on the practical convenience of their location than on the priority of their importance for treating that specific condition. Needles are first inserted into ear points which are located in more central or hidden regions of the auricle because needles in more peripheral areas of the ear would get in the way.

5. Needle insertion: First stretch out the auricle with one hand while using the other hand to hold the needle over the appropriate ear point (see Figure 6.2). Avoid doing one-handed ear acupuncture, only using the hand holding the needle. Insert the needle with a quick jab and a twist to a depth of 1 to 2 mm. The needle should just barely penetrate the skin, but it is acceptable if it touches the cartilage. The needle should be inserted deep enough to hold firmly, but not so deep that it pierces through to the other side (see Figure 6.3). Be careful not to let the needle pierce the hand that is stabilizing the patient's ear.

It is usually more comfortable for the patient if the needle is inserted on the patient's inhalation breath. The patient may gasp or choke when a needle is inserted into a particularly sensitive region. Even though the needle may produce intense discomfort on first insertion, this adverse effect is short lived and the pain quickly subsides. The intensity of pain at an auricular point is usually a sign that the point is appropriate for treatment. Guide tubes that are often used to insert needles into body acupuncture points are not needed because of the shallow depth of ear points. It is better to locate the needle by sight precisely over an ear point previously identified by skin surface indentation from a point finder. Insert all the needles you plan to use at one time and leave them in place. You may periodically twirl the needles to maintain a firm connection and to further stimulate that auricular point. Bleeding may occur when a needle is withdrawn from the ear, but gentle pressure applied to the point usually stops the bleeding within a few seconds.

6. Treatment duration: Leave all the inserted needles in place for 10–30 minutes, then remove and place the used needles in an approved container. Some needles fall out before the session is over, which tends to indicate that the particular needle insertion point had received sufficient stimulation.

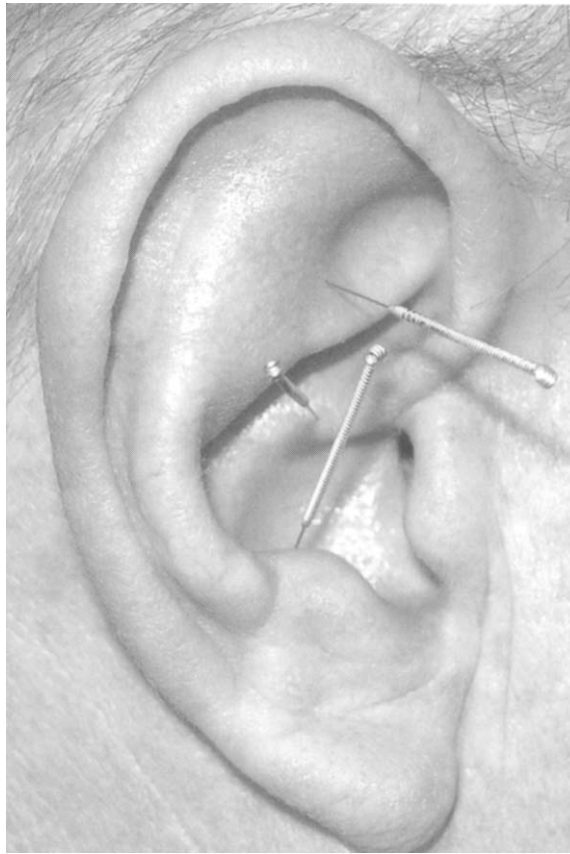


Figure 6.3 Half-inch needles inserted into the auricular acupoints Shen Men, Point Zero, and Thalamus point.

7. Number of sessions: Treat 1–3 times a week for 2–10 weeks, then gradually space out the treatment sessions. A given condition may require as few as 2 or as many as 12 sessions, depending on the chronicity and severity of the problem and on the patient's energy level. If after 3 sessions there is no improvement in the condition, either use a different set of ear points or try another form of therapy.

6.3 Auricular electroacupuncture stimulation (AES)

- 1. Ear needling techniques:** For electroacupuncture, first use needling techniques described in the previous section to detect the appropriate ear points and to insert the needles.
- 2. Tape needles:** In order to hold the inserted needles securely in place, tape the needles across the ear with medical adhesive tape. Attaching the stimulating electrodes will tend to pull out the needles, unless they are first fastened with protective tape.
- 3. Attach electrodes:** Use microgator clips to connect the inserted needles to the electrode leads of an electrical stimulator (see Figure 6.4). Because these moveable clips may pull out the inserted needles when attached, make sure that the needles are first securely taped in place. It is also wise to fasten the electrode wires to a secure anchor so that the wires will not drag on the needles and pull them out.
- 4. Electrode pairs:** It is always necessary to stimulate between two needles, as electricity flows from a positive to a negative pole. It does not usually matter which pole of the stimulator is attached to which ear point, but if the patient reports any increase in pain, try switching the electrode leads to the opposite polarity.
- 5. Frequency parameters:** Preset the electrical frequency rate to either a slow 2 Hz or 10 Hz frequency, or to a parameter known as dense-disperse, where 2 Hz frequencies are alternated with 100 Hz frequencies (see Figure 6.5). Lower frequencies, 10 Hz or less, affect enkephalins, endorphins, and visceral and somatic disorders, whereas higher frequencies, 100 Hz or higher, affect dynorphins and neurological dysfunctions.



A



B

Figure 6.4 Alligator clip electrodes attached to needles inserted into the Shen Men and Lung points of the auricle (A). Electroacupuncture stimulation equipment is shown with electrode wires leading to needles in a rubber ear model (B). Needles in this figure are not shown taped to the ear to allow good visualization of the attachment of electrodes to the acupuncture needles, but they would typically be taped securely in place.

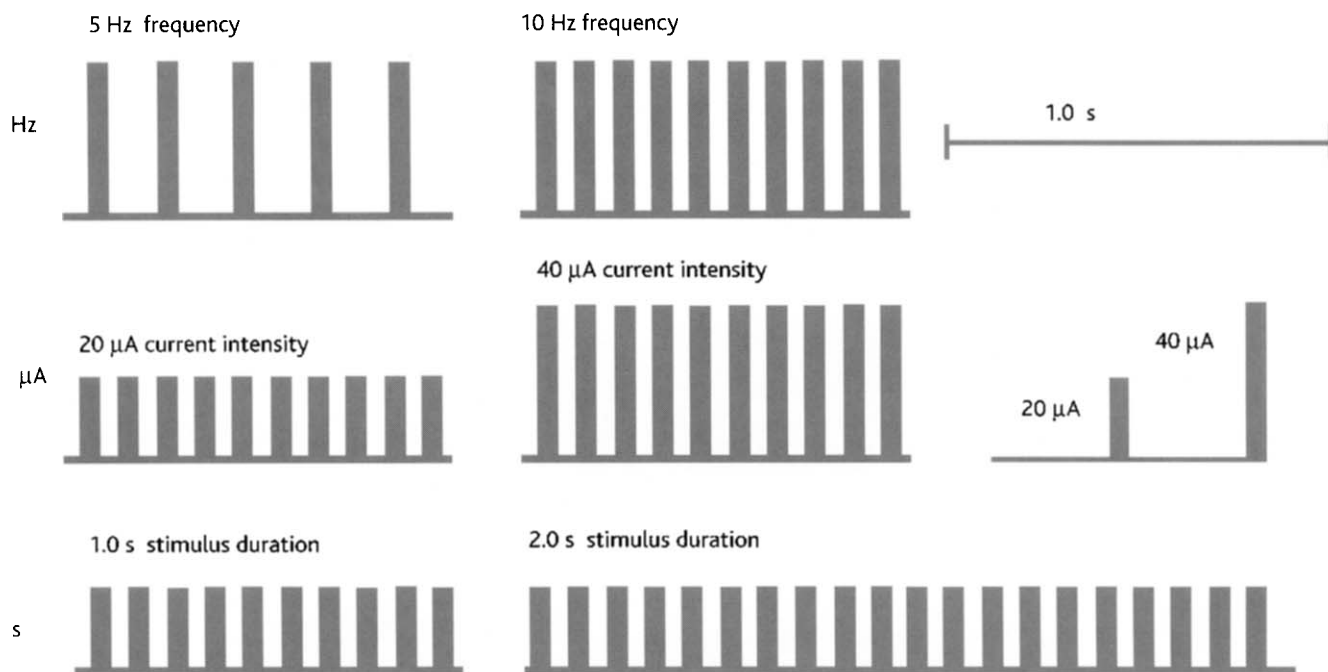


Figure 6.5 The stimulation parameters used in activating auricular acupoints can vary by frequency in cycles per second, by intensity in current amplitude, and by duration in the number of seconds a point is stimulated.

6. Current intensity: Gradually raise the electrical current intensity to a perceptible level and then reduce it to a subpain threshold. The electrical stimulation intensity should not be painful.

7. Treatment sessions: As with auricular acupuncture without electrical stimulation, leave the needles in place and maintain the stimulation current for 10–30 minutes. Treat the patient once to three times a week, for 2 to 10 weeks. While more cumbersome to apply than needle insertion alone, electroacupuncture is typically more powerful and more successful in relieving pain and alleviating the problems of addiction.

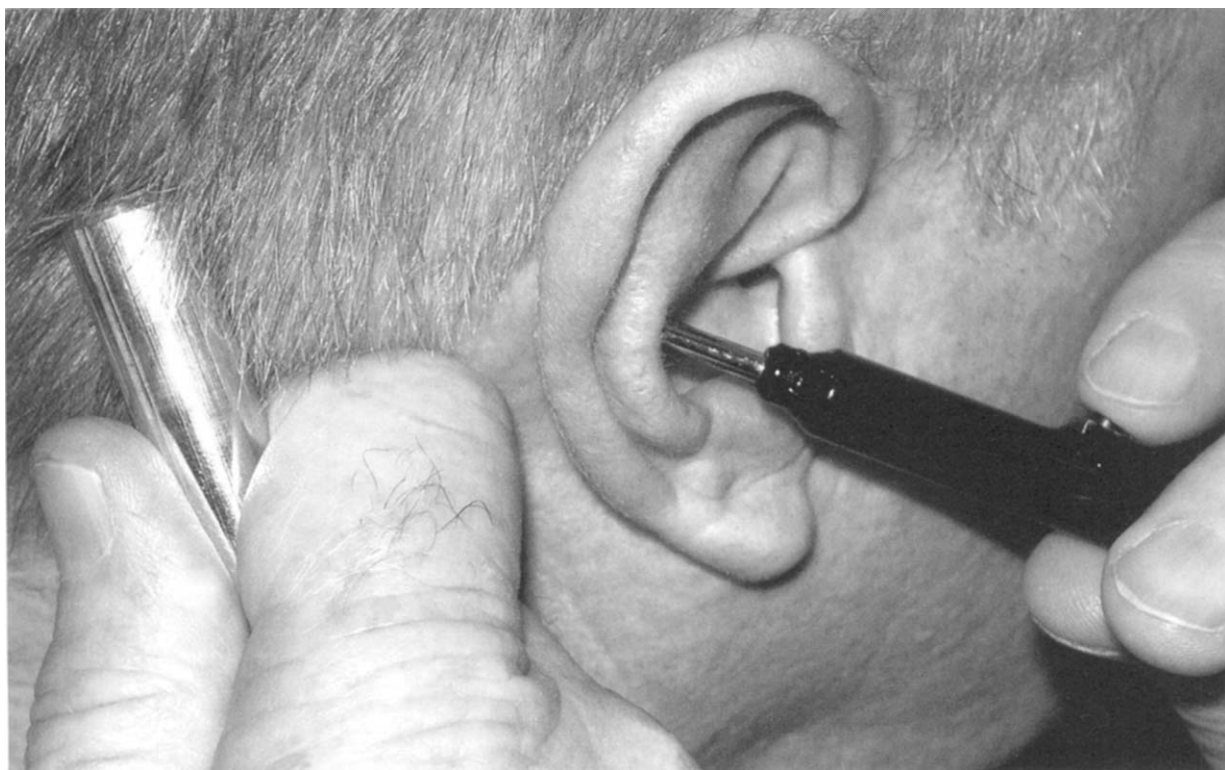
6.4 Transcutaneous auricular stimulation (TAS)

1. Overview: In this treatment method, the therapist detects and stimulates each ear point with the same electrical probe. The auricular point is detected and then immediately treated with microcurrent stimulation before moving on to the next ear point. It is a form of transcutaneous electrical nerve stimulation (TENS) or neurostimulation and can be medically billed as such. Before beginning auriculotherapy, it is best to have the patient repeat those movements, or maintain those postures, which most aggravate his or her condition. It is also useful for the practitioner to put physical pressure on those body areas which are painful. One can thus establish a behavioral baseline from which there can be seen a change as a result of the treatment. The same movements, postures, or applied pressures are repeated following the treatment. This practice tends to eliminate doubts about the procedure which often occur when only subjective impressions are elicited. A facial grimace by the patient during movements, or in response to pressure, is much more convincing than verbal assessments that ‘it hurts.’

2. Clean ear: Clean the external ear with alcohol to eliminate skin oil and surface flakiness. Having a clean auricular surface is very important for determining the accuracy of reactive ear points that will be treated with transcutaneous auricular stimulation.

3. Determine treatment plan: As with other auricular procedures, consult the specific treatment plans listed in last section of this text to select the auricular points which seem most appropriate for the condition being treated. First treat local anatomic points corresponding to specific body symptoms. If there is more than one local point, only treat the most tender and most electrically conductive local points. Next treat master points and supportive points.

A



B



Figure 6.6 Transcutaneous stimulation of the skin surface of an auricular acupoint and the hand held reference probe (A). Stim Flex equipment that provides a probe for both auricular detection and auricular stimulation (B), one of several possible electrical stimulation devices.

4. **Threshold setting:** Some instruments require the practitioner to first set a threshold level by raising the sensitivity of the unit to allow electrical detection of the Shen Men point or Point Zero. Most reactive corresponding points are typically more electrically conductive than Shen Men or Point Zero, but these two master points are more consistently active in a majority of clients. Sometimes, by first stimulating one of these two master points, other auricular points become more identifiable for detection. This process is called 'lighting up the ear.'

5. **Auricular probe:** Apply the auricular detecting and stimulating probe to the external ear, stretching the skin tightly to reveal different surfaces of the ear. The practitioner's other hand supports the back of the ear so that both it and the probe are steady. Gently glide the auricular probe over the ear, holding the probe perpendicular to the ear surface. Do not pick up the probe and jab at different areas of the ear. The patient usually holds a common lead in one of their hands in order to complete a full electrical circuit. Electric current flows from the stimulating equipment to the electrode leads to the ear probe held to the patient's auricle. Current then passes through the patient's body to the patient's hand to the metal common lead. Finally, the current goes through the return electrode wires and back to the electronic equipment. If there is some problem with stimulation, be sure that all parts of the circuit are complete. There could be a break in electrode wires or the patient may fail to continue holding the common lead.

6. **Detection mode:** Diagnosis of reactive ear points is achieved with low level direct current (DC). The microcurrent levels used for detection are usually only 2 microamps in strength. The detecting cycle is usually indicated by a change in a continuous tone or by a light that flashes when a reactive point is detected.

7. **Stimulation mode:** Reactive ear points discovered during auricular diagnosis are treated with alternating current (AC). The microcurrent levels used for treatment are typically 10–80 microamps in strength. The treatment cycle is usually indicated by a pulsating tone or a flickering light. It is usually necessary to press a button on the auricular probe while it is held in place at a reactive ear point. Detect and stimulate one ear point before proceeding to the next ear point.

8. **Stimulation frequency:** Preset the frequency rate of stimulation, measured in cycles per second or Hertz (Hz), by the specific zone of the ear to be stimulated or by the type of body tissue to be treated. Although Asian electronic equipment is often supplied with only one frequency, usually 2 Hz or 10 Hz, American and European electronic equipment comes with a range of frequency rates to choose from. The specific frequencies developed by Nogier are as follows: 2.5 Hz for the subtragus, 5 Hz for the concha, 10 Hz for the antihelix, antitragus and superior helix, 20 Hz for the tragus and intertragic notch, 40 Hz for the helix tail, 80 Hz for the peripheral ear lobe, and 160 Hz for the medial ear lobe. The type of organ tissue being treated is also a factor, with 5 Hz used for visceral disorders, 10 Hz for musculoskeletal disorders, 40 Hz for neuralgias, 80 Hz for subcortical dysfunctions and 160 Hz for cerebral dysfunctions.

9. **Stimulation intensity:** Set the intensity of stimulation by the patient's pain tolerance, usually ranging from 10–80 microamps. Lower the current intensity if the patient complains of pain from the auricular stimulation. If even the lowest intensity is experienced as painful, then only auricular acupressure should be used at that ear point. A major problem with electrical stimulators that are designed for treating the body as well as the ear is that the skin surface on the body has a much higher resistance than does the ear. Consequently, electrical current levels that are sufficient to activate body acupoints are too intense for stimulating auricular points. Practitioners should be clear not to confuse stimulation frequency with stimulation intensity. Frequency refers to the number of pulses of current in a period of time, whereas intensity refers to the amplitude or strength of the electric current. Only intensity is related to perceived pain, whereas frequency is related to the pattern of electric pulses.

10. **Stimulation duration:** Treat each ear point for 8–30 seconds, sometimes treating for as long as 2 minutes in chronic conditions, addictions or very severe symptoms. Anatomic points are usually treated for over 20 seconds, whereas master points may only require 10 seconds of stimulation.

11. **Number of ear points:** Treat 5 to 15 points per ear, using as few auricular points as possible. Usually treat the external ear ipsilateral to the corresponding body area where there is pathology.

12. **Bilateral stimulation:** After treating all the points on the ipsilateral ear, stimulate points on the opposite ear if the problem is bilateral, i.e. in most health problems. Even when the problem is localized on one side of the body, it is often useful to treat the master points on both ears.

13. **Tenderness ratings:** The precise ear points detected and the level of stimulation intensity used depends partly on the degree of tenderness experienced by the patient. Ratings of tenderness could be a verbal descriptor or could be numbers on a scale of 1 to 10 or '0, 1, 2, 3' levels of increasing discomfort. Ask the patient to monitor the area of bodily discomfort while you stimulate the ear. Continue treating an ear point longer if the symptom starts to diminish, or if the patient notices sensations of warmth in the area of the body where the symptom is located. If no symptom changes are noticed within 30 seconds, stimulate another point.

14. **Number of sessions:** Two to ten auriculotherapy sessions are usually required to completely relieve a condition, but significant improvement can be noticed within the first two sessions. By monitoring perceived pain level in a body region, and by determining the range of movement of musculoskeletal areas, one can more easily determine the progress of the auriculotherapy treatments. These behavioral assessments should be conducted before and after an auriculotherapy session. For internal organs and neuroendocrine disorders, there is often no specific symptom to notice, so one must wait to observe a change in the patient's condition. Even for musculoskeletal problems, there may not be a marked relief of pain for several hours, so the patient should continue to monitor their symptoms for the next 24 hours after a session.

15. **Laser stimulation:** The exact procedures described above can be applied to laser stimulation as well as to electrical stimulation. Both laser stimulation and transcutaneous electrical stimulation are non-invasive procedures and they seem to yield similar results. However, at the present time, the US Food and Drug Administration (FDA) has not approved the use of laser stimulation for auriculotherapy in the United States. Surface electrical stimulation of the external ear is FDA approved as a form of transcutaneous electrical nerve stimulation.

16. **Medical billing:** To bill for auriculotherapy as TENS, assign the CPT Code 64550 for peripheral nerve neurostimulation or CPT Code 97032 for electrical stimulation with constant therapist attendance. CPT Code 97781 for acupuncture with electrical stimulation can also be used.

17. **Stimulation equipment:** Various American, European and Asian manufacturers produce electronic equipment designed for auricular stimulation, ranging in price from \$80 to \$8000 (US). Among the units available in the United States are the Acuscope, Acumatic, Alpha-Stim, Stim Flex 400, Hibiki 7, Neuroprobe and Pointer Plus. Addresses and telephone numbers for these manufacturers are found at the back of this book.

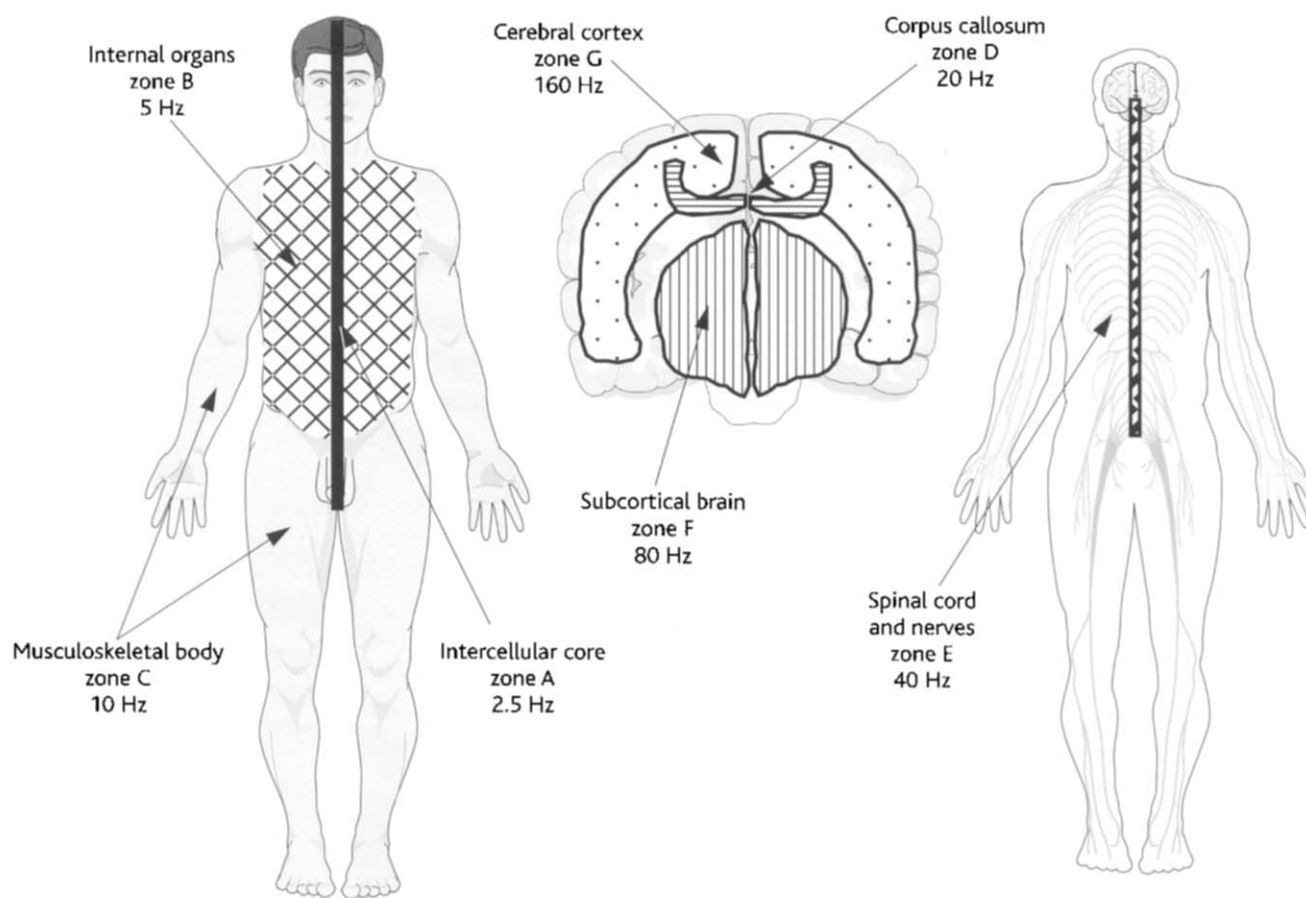
6.5 Auricular medicine

European doctors who monitor the Nogier vascular autonomic signal (N-VAS) to determine which ear points to stimulate refer to this clinical procedure as auricular medicine rather than auriculotherapy. The somatotopic cartography of the auricle is verified by a positive or a negative change in radial pulse amplitude following tactile pressure at specific points on the auricle. N-VAS can also be activated by the positive or negative poles of a magnet. Different sides of a two-prong polarized probe are used to elicit the change in pulse qualities which indicate the reactivity of specific areas of the ear. Needles are then inserted into the identified ear points, or sometimes they are treated with laser stimulation. As the focus of this book is the description of auriculotherapy procedures, rather than auricular medicine, further explanation of this more advanced technique is omitted here.

6.6 Seven frequency zones

Nogier identified seven specific regions of the body that resonated with seven basic frequencies. The specific frequency associated with each body region was determined by holding different colored transparency slides over the auricle and noting whether that color could balance disturbances of N-VAS response. Alternatively, Nogier would stimulate the ear or the body with different frequencies of a flashing white strobe light. The body regions were differentiated with letters A through G (see Figure 6.7). Each letter also indicated certain types of health conditions that were related to the type of tissue of that organ region. The color and number of a Kodak-Wratten filter that relates to each frequency zone of the body is presented in the second and third columns of Table 6.1. Individual colors have different frequencies of oscillating photons of light, progressing from the lowest frequency of red to progressively higher frequencies in a rainbow or prism. Nogier determined that the effects of progressively shorter wavelengths of different colored

Frequency rates for body regions



Frequency rates for auricle regions

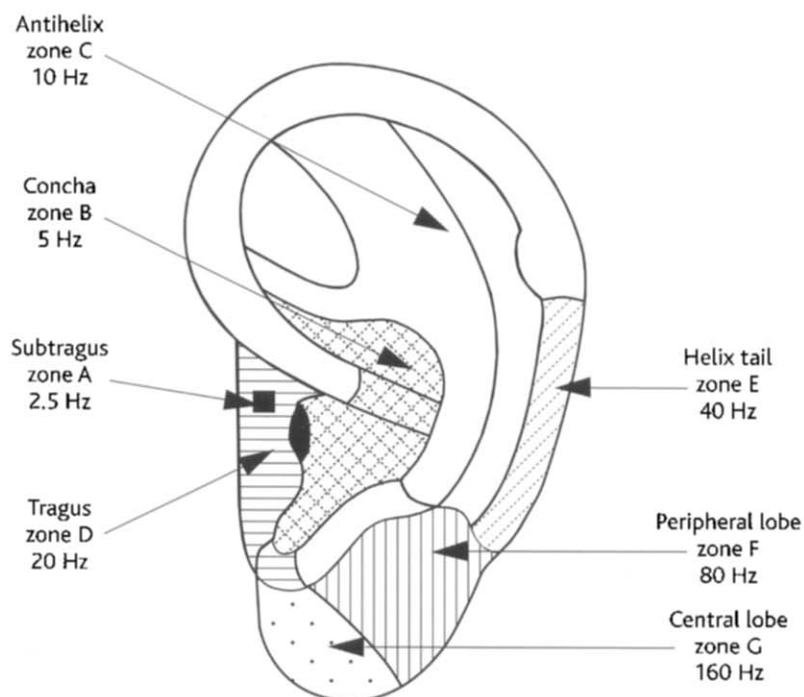


Figure 6.7 Seven frequency zones of the body are designated by the letters A for 2.5 Hz, B for 5 Hz, C for 10 Hz, D for 20 Hz, E for 40 Hz, F for 80 Hz, and G for 160 Hz. These same frequencies are related to different regions of the auricle and different types of somatic tissue.

Table 6.1 Color, electrical and laser stimulation frequencies

Zone	Color	Wratten filter	Electrical frequency (Hz)	Exact rate (Hz)	Laser frequency (Hz)	Corresponding auricular areas
A	Orange	# 22	2.5	2.28	292	Subtragus
B	Red	# 25	5.0	4.56	584	Concha
C	Yellow	# 4	10.0	9.12	1168	Antihelix, Antitragus, Helix
D	Red Orange	# 23	20.0	18.25	2336	Tragus, Intertragic notch
E	Green	# 44	40.0	36.50	4672	Helix tail
F	Blue	# 98	80.0	73.00	9334	Peripheral ear lobe
G	Purple	# 30	160.0	146.00	18 688*	Medial ear lobe

*In clinical practice, the harmonic resonance frequency of 146 HZ is used for laser stimulation because such a rapid frequency rate of 18 kHz tends to overheat the laser equipment.

light filters on body tissue could also be found with progressively higher frequencies of flashing light, faster frequencies of electrical pulses, or higher frequencies of laser stimulation.

The electrical frequencies for each zone of the body are presented in column 4 of Table 6.1 and the exact body resonance rates are presented in column 5. Each rate is twice the rate of the frequency below it. Concha and visceral disorders are stimulated at 5 Hz, antihelix and musculoskeletal disorders are stimulated at 10 Hz, and the highest frequencies of 160 Hz relate to cerebral and learning disorders. The corresponding frequencies for laser stimulation are presented in column 6, with the last column reserved for the areas of auricular anatomy related to each frequency zone. Some practitioners of auricular medicine have suggested that these seven resonant frequencies are related to the energies of the seven primary chakras of ayurvedic medicine. In some energetic systems, each chakra is associated with the different colors of the spectrum, from red to orange to yellow to green to blue to violet to white light.

Anatomical zones and energy expressions of different frequencies

Zone A – Cellular vitality: This zone runs up the midline of the physical body like the acupuncture channels of the Conception Vessel and Governing Vessel in Oriental medicine and like the sushumna nadi of ayurvedic medicine. The auricular area for this 2.5-Hz zone is the subtragus. It affects primitive reticular energy and the primordial forces that affect cellular organization. This frequency often occurs at the site of scars and tissue disturbance and relates to the embryonic organization of cellular tissue. It is used to treat cellular hyperactivity, cellular proliferation, inflammatory processes, neoplastic cancers, tumors or tissue dedifferentiation.

Zone B – Nutritional metabolism: This zone affects internal organs. The frequency of 5Hz is the optimal rate for stimulating points in the concha of the auricle. Affecting vagal nerve projections to visceral organs, the 5 Hz frequency is used to treat nutritional disorders, assimilation disorders, tissue malnutrition, neurovegetative dysfunctions, organic allergies, constitutional dysfunctions and parasympathetic imbalance. When treating endodermal visceral organ points related to the Nogier second and third phase, the 5 Hz frequency moves with the territory related to that phase.

Zone C – Kinetic movements: This zone affects proprioception, kinetic movements and the musculoskeletal body. The resonant frequency for the zone is 10 Hz, which is the frequency used to treat auricular points on the antihelix and the surrounding areas of the auricle, such as the scaphoid fossa and triangular fossa. This zone affects myofascial pain, sympathetic nervous system arousal, somatization disorders, cutaneous allergies, motor spasms, muscle pathology and any disorder aggravated by kinetic movement. When treating mesodermal musculoskeletal points related to the Nogier second and third phase, the 10 Hz frequency moves with the territory related to that phase.

Zone D – Global coordination: This 20-Hz zone represents the corpus callosum and the anterior commissure which coordinate associations between the two sides of the brain. It is represented on

Acupuncture microsystems on zone D of tragus

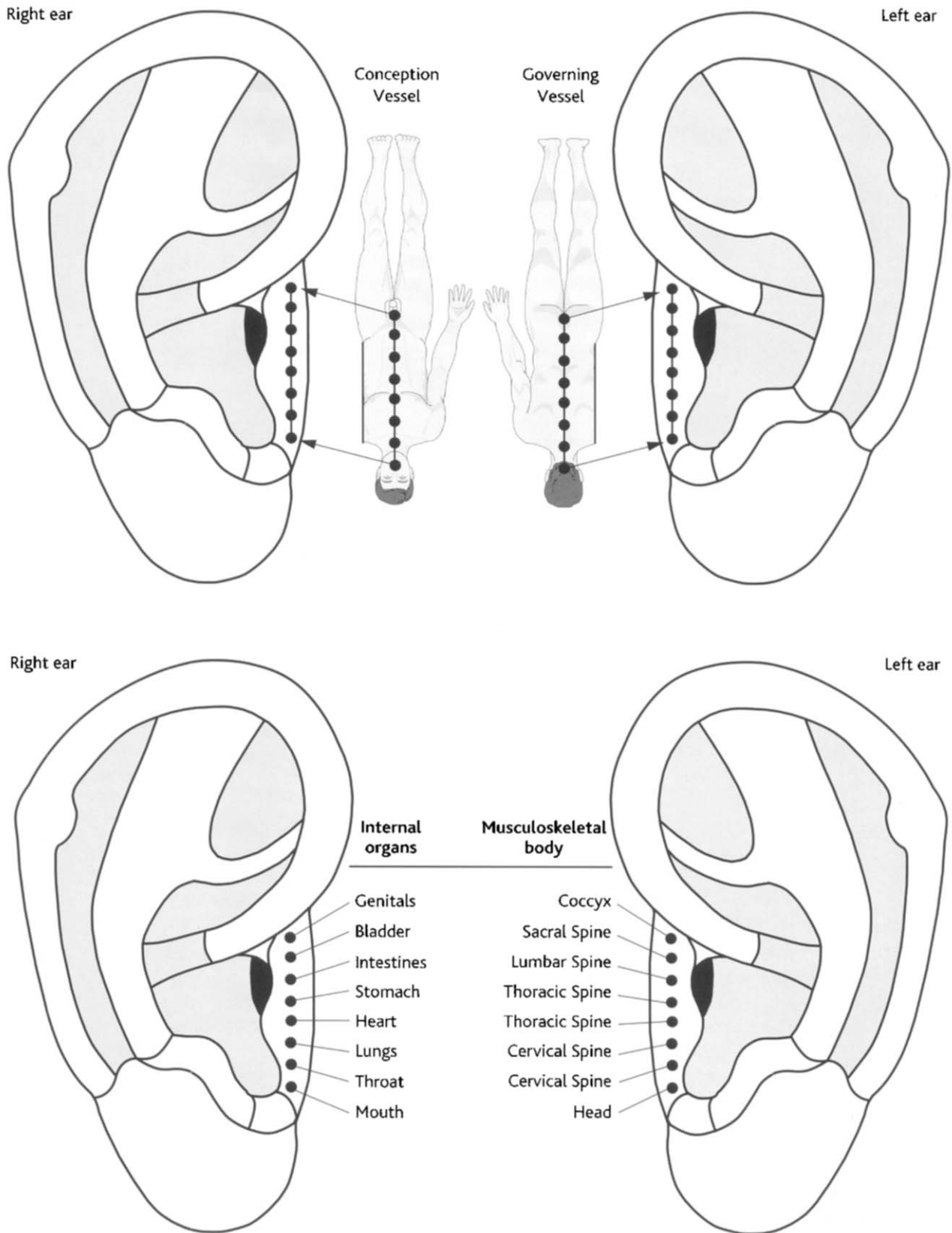


Figure 6.8 The Conception Vessel channel is found on the tragus of the right auricle, whereas the Governing Vessel meridian is found on the tragus of the left ear. Similarly, the internal organs represented by the front mu points are found on the tragus of the right ear, while rear shu points are shown on the tragus of the left ear.

the external tragus of the auricle that lies immediately above the subtragal zone A. It corresponds to crossed-laterality dysfunctions, problems of cerebral symmetry versus divergence, incoordination of the two sides of the body, symmetrically bilateral dysfunctions or midline pain problems. This frequency affects symmetrically bilateral pain problems and strictly median pain problems. In a right-handed person, the right tragus corresponds to the anterior side of the body Conception Vessel and the left tragus corresponds to the posterior body Governing Vessel (see Figure 6.8). For a left-handed person or an oscillator, the opposite is the case. The left tragus corresponds to the anterior side of the body and the right tragus corresponds to the posterior side of the body. In each case, the body is represented upside down, with the upper body toward the inferior tragus and the lower body toward the superior tragus.

Zone E – Neurological interactions: This zone represents the spinal cord and peripheral nerves and corresponds to the helix tail of the auricle. The 40 Hz frequency is used for spinal disorders, skin disorders, dermatitis, skin scars, neuropathies, neuralgias and herpes zoster.

Zone F – Emotional reactions: This 80-Hz zone represents the brainstem, thalamus, limbic system, and striatum and is represented on the peripheral lobe of the auricle. It corresponds to problems related to unconscious postures, conditioned reflexes, tics, muscular spasms, stammering, headaches, facial pain, overly sensitive sensations, clinical depression and emotional disturbances. When treating ectodermal neuroendocrine points related to the Nogier second and third phase, the 80 Hz frequency moves with the territory related to that phase.

Zone G – Intellectual organization: This zone represents psychological functions affected by the frontal cortex that are represented on the medial lobe of the auricle. The 160 Hz stimulation frequency is used for pyramidal system dysfunctions, memory disorders, intellectual dysfunctions, psychosomatic reactions, obsessive nervousness, chronic worry, malfunctioning conditioned reflexes and deep-seated psychopathology. When treating ectodermal cerebral cortex points related to the Nogier second and third phase, the 160 Hz frequency moves with the territory related to that phase.

The placement of colored filters or the selection of electrical or laser stimulation frequencies is based on the type of disorder and the region of the ear that correspond to each zone (see Box 6.1).

Box 6.1 Stimulation frequencies for specific auricular points

Auricular point	Stimulation frequency (Hz)	Auricular point	Stimulation frequency (Hz)
Master Oscillation point	2.5	Gastrointestinal Organs	5
Point Zero	10	Lung and Respiratory Organs	5
Shen Men	10	Abdominal Organs	5
Sympathetic Autonomic point	10	Urogenital Organs	10
Allergy point	10	Heart Muscle Activity	10
Endocrine point	20	Musculoskeletal Spine	10
Tranquilizer point	20	Musculoskeletal Limbs	10
Thalamus point	80	Musculoskeletal Head	10
Master Sensorial point	160	Sensory Organs	10
Master Cerebral point	160	Endocrine Glands	20
Muscle Relaxation point	5	Peripheral Nerves	40
Wind Stream	10	Spinal Cord	40
San Jiao (triple warmer)	20	Brainstem	80
Appetite Control point	20	Thalamus and Hypothalamus	80
Vitality point	20	Limbic System and Striatum	80
Antidepressant point	80	Corpus Callosum	20
Aggressivity point	80	Cerebral Cortex	160
Psychosomatic point	160		

The rise in resonance frequencies going from zone A to zone G reflects the increasing evolutionary complexity of organic tissue organization. As one ascends from basic cellular metabolism to visceral organs to musculoskeletal tissue to peripheral nerves to subcortical brain structures to the hierarchical structure of the cerebral cortex, the frequencies that relate to each successive zone become progressively faster. This rise in frequencies when going from primitive tissue to more recently evolved neurological tissue corresponds to the increasingly faster rotation of chakra vortices described in Chapter 2.3.

6.7 Semipermanent auricular procedures

Ear pellets: Small stainless steel balls or small seeds soaked in an herbal solution can be placed on a specific ear point and held there by an adhesive strip. Ear acupoint pellets are also called ear seeds, ion spheres, semen vaccaria grains, otoacupoint beads or magrain pellets. The small adhesive strips used to hold the seeds are best placed with forceps or tweezers in difficult-to-reach areas of the ear. In Chinese ear acupuncture, the ripe seeds from the vaccaria plant have become a popular replacement for ear needles, and are now used as the sole method of auricular stimulation. The seeds can be as effective as needles and have less chance of leading to infections. Even after needle insertion treatments, ear pellets are left in place at reactive ear points in order to sustain the benefits of auricular acupuncture. They should not be left on the auricle for longer than a week. Spontaneous sweating on the ear surface and daily bathing may make it difficult for ear pellets to stay attached. While patients are often encouraged to periodically press on the pellets during the week, this added procedure runs the risk of knocking the pellet out of place.

Ear magnets: These magnets appear similar to the acupoint pellets, but consist of small magnets held onto the auricular surface with an adhesive strip.

Press needles and ear tacks: These are small, semipermanent needles or indwelling thin tacks that are inserted into the ear to be left in place for several days. These types of needle provide stronger stimulation than ear pellets.

Staple puncture: A surgical staple gun is used to apply staple needles into the skin at specific ear points. This procedure has been most commonly used for the treatment of weight loss by a staple inserted into the Stomach and Esophagus points.

Aqua puncture: Novocaine, saline, vitamins or an herb solution can be subcutaneously injected into a specific region of the ear. The subdermal pressure as well as the ingredients of the injected solution provides prolonged stimulation of an ear point.

6.8 Selection of auricular acupoints for treatment

The selection of ear points for treatment is based on the following criteria:

1. By reference to the corresponding area on the body which exhibits pain or pathology.
2. Selective reactivity, as indicated by abnormal color or shape, tenderness or increased electrodermal response at the ear.
3. Reactivity based on changes in the N-VAS pulse.
4. Differentiations of zang-fu syndromes related to TCM theory and the flow of qi in acupuncture channels.
5. Modern physiological understanding of the neurobiological mechanisms underlying a medical disorder.
6. The function of an ear point as based upon clinical writings and scientific studies.
7. Presenting clinical symptoms, requiring a general medical diagnosis of the patient to differentiate superficial complaints from underlying pathology.
8. Personal clinical experience.

Some auricular loci are found to elicit therapeutic effects for a certain disease that seem to have nothing to do with either conventional Western medicine or traditional Chinese medicine.

6.9 Tonification and sedation in auriculotherapy

Positive gold tonification: The Chinese refer to tonification as the activation or augmentation of areas with weak energy. Use brief (6–10 seconds duration) positive electrical polarity for activating weak functions. Master points and functional points are often tonified with this brief stimulation.

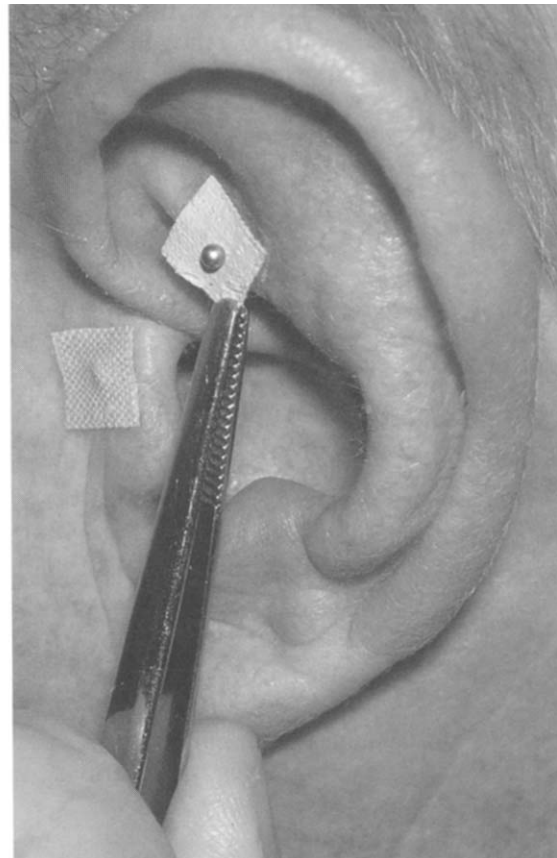
A**B****C****D**

Figure 6.9 Ear pellets applied to the auricular skin surface taped onto the auricular low back region (A), and the auricular neck region (C). A small gold ball can be applied to the tragus with forceps (B), whereas semipermanent needles are shown inserted into the ear lobe (D).

In auricular acupuncture needling, tonify by inserting gold needles into the ear ipsilateral to the problem, turning the needle in a clockwise rotation. Gold activates the sympathetic nervous system, so tonification procedures are used to treat parasympathetic disorders, hyporeactions and energetic vacuums. It is usual to treat the dominant side of the body. Any complaint which is aggravated by rest will often indicate the need for a gold needle.

Negative silver sedation: The Chinese refer to sedation as the dispersion of excessive energy to diminish its overactivity. Use negative electrical polarity, of 12–30 seconds duration, to diminish overactive organs or excessive reactions due to stress or tension. One typically sedates local points representing a specific area of the body by treating them with more prolonged stimulation, from 10 seconds to several minutes. In auricular acupuncture, one may sedate by inserting silver needles into the reactive ear point, turning the needle in a counterclockwise rotation. Silver activates the parasympathetic nervous system. Most reactive points on the ear require sedative procedures, since they represent muscle tension, sympathetic arousal, stressful reactions, and excessive energy use. For some individuals, it may also be necessary to treat the ear contralateral to the area of the body where there is a problem, the non-dominant side. A pain which is aggravated by movement or exercise suggests the need for a silver needle. One can stimulate a point with a strong stimulus over a short period of time or a weak stimulus over a prolonged period of time.

6.10 Relationship of yin organs to ear acupoints

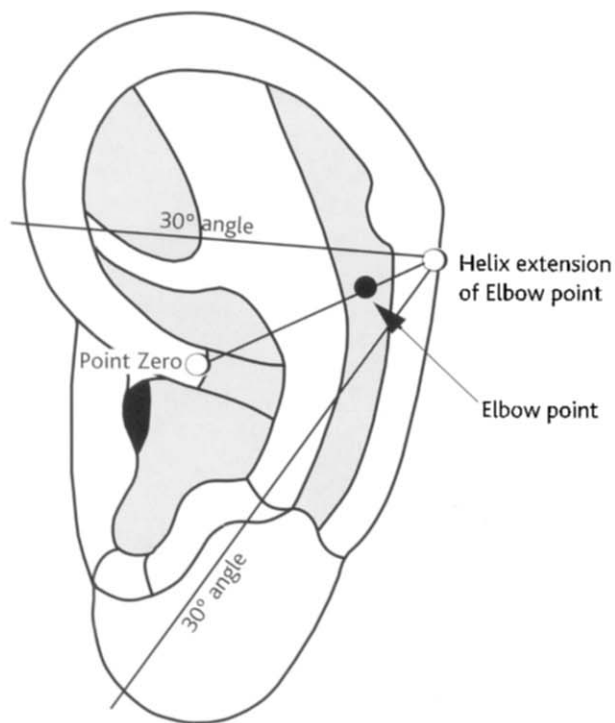
The principal organs used to balance the acupuncture channels in Oriental medicine can also be activated by stimulation of the corresponding auricular points. Recent revisions of the Chinese ear acupuncture charts have emphasized the representation of the Lung, Heart, Liver, Spleen and Kidney points on the posterior surface of the auricle as well as in the concha of the anterolateral surface (see Figure 2.17).

1. **Lung point:** Affects respiratory disorders, drug detoxification and skin diseases.
2. **Heart point:** Produces mental calming, relieves nervousness, and improves memory.
3. **Liver point:** Affects blood, muscles, tendons, inflammations, sprains, and eye diseases.
4. **Spleen point:** Affects digestion, reduces muscle tensions, and facilitates physical relaxation.
5. **Kidney point:** Affects urinary disorders, bone fractures, back pain, and hearing disorders.

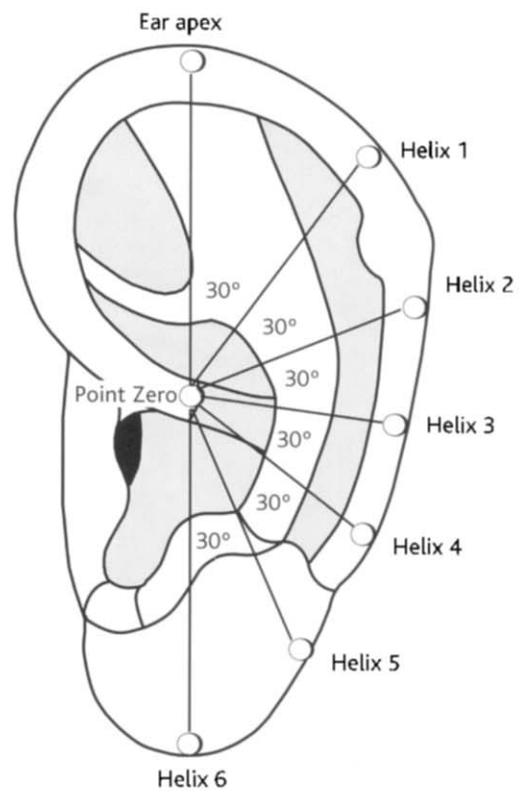
6.11 Geometric ear points

Nogier and his colleagues discovered that after treating corresponding ear points indicated by somatotopic maps, it was also possible to discern a series of reactive auricular points that occurred along an imaginary straight line. These lines were referred to as geometric because they occurred at 30° angles to each other (see Figure 6.10). The practitioner would first configure an imaginary line that extended from Point Zero to the corresponding auricular point. The line was then continued outward to the peripheral helix that intersected with that line. Stimulation of any reactive ear points found along this line were found to augment the treatment effects seen with auriculotherapy. In addition to treating the helix point itself, 30° angles extending from this helix location were used to create additional imaginary lines which were also stimulated. These configurations are depicted in Figure 6.10. The application of these 30° angles has been suggested by Bahr (1977) to account for the Chinese ear acupuncture points used for Appendix disorders found in the Scaphoid Fossa and Tonsil points found on the helix. There is also a 30° angle between the Chinese Hypertension point in the triangular fossa, a second Hypertension point on the tragus, and the European Marvelous point, which is also used to treat high blood pressure. The complexity of this geometric procedure, however, limits its usefulness to those clinical cases which do not respond to more straightforward applications of auriculotherapy. Dr Bahr has also described a linear relationship of important functional ear points he described as the Omega points. Figure 6.11 shows the vertical alignment of the Master Omega point, Omega 1, and Omega 2 along the medial aspects of the auricle.

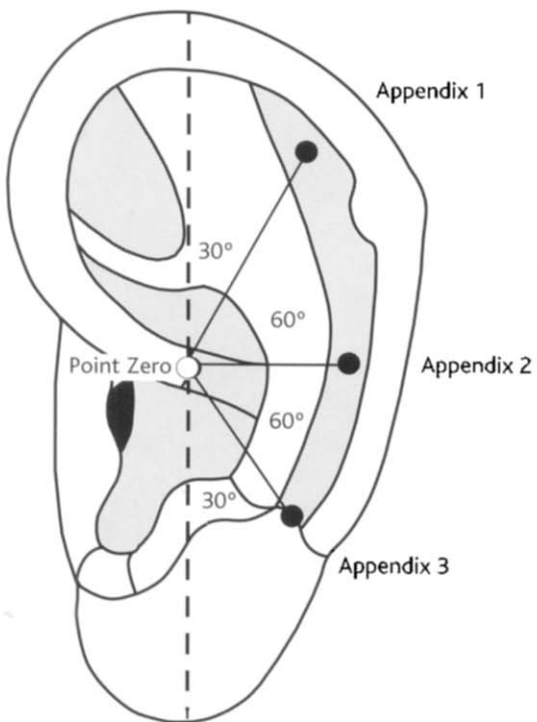
A Geometric ear points



B Chinese helix ear points



C Chinese Appendix ear points



D Chinese Tonsil ear points

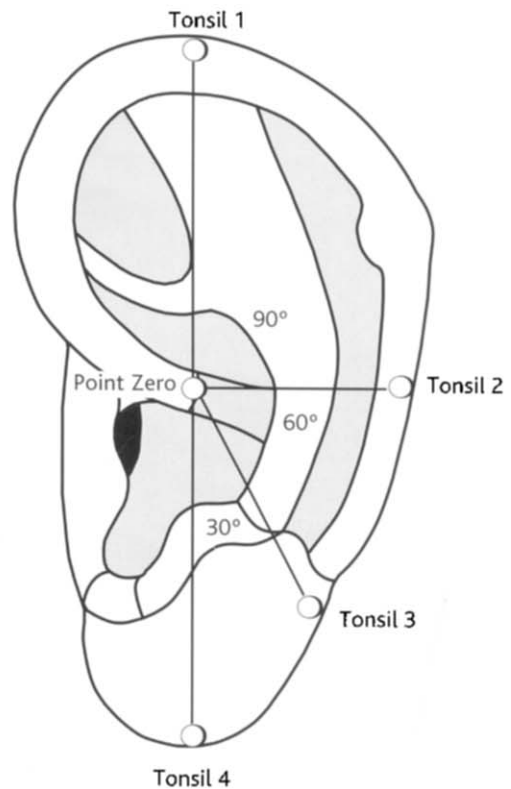


Figure 6.10 Geometric ear points occur at 30° angles from a line that extends from Point Zero to the helix (A). Chinese ear acupuncture points also found at 30° angles are located on the helix (B), for Appendix Disorder acupoints in the scaphoid fossa (C) and Tonsil points on the helix (D).

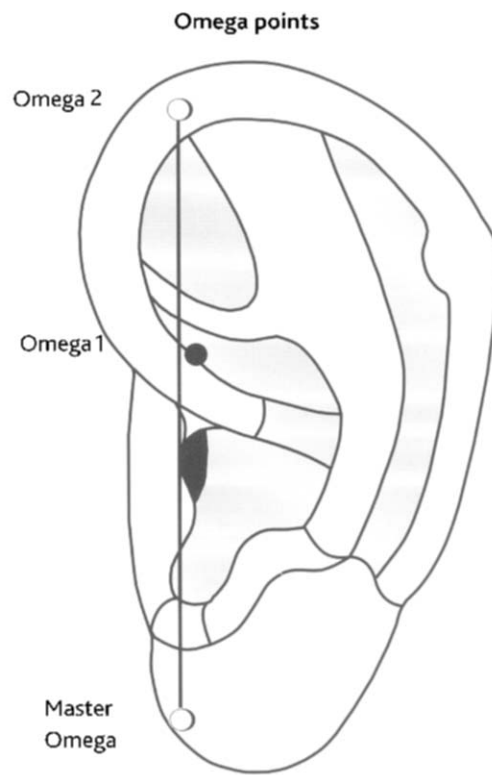


Figure 6.11 Omega points form a vertical line along the medial aspects of the external ear, including Master Omega, Omega 1, and Omega 2 points.

6.12 Inverse and contrary relationships of the ear and body

When treating the muscles attached to the spinal vertebrae and the peripheral limbs, it has been found in both auriculotherapy and manipulative therapies that it is possible to treat opposing regions of the musculoskeletal body. This technique can be used to stimulate reactive points on the

Box 6.2 Opposing relationships between inverse and contrary body regions

Upper spine region	Inverse region of lower spine	Right side of body	Contrary side of opposing body
Cervical spine 1	Sacral spine 5	Right hand	Left foot
Cervical spine 2	Sacral spine 4	Right wrist	Left ankle
Cervical spine 3	Sacral spine 3	Right elbow	Left knee
Cervical spine 4	Sacral spine 2	Right shoulder	Left hip
Cervical spine 5	Sacral spine 1	Right hip	Left shoulder
Cervical spine 6	Lumbar spine 5	Right knee	Left elbow
Cervical spine 7	Lumbar spine 4	Right ankle	Left wrist
Thoracic spine 1	Lumbar spine 3	Right foot	Left hand
Thoracic spine 2	Lumbar spine 2		
Thoracic spine 3	Lumbar spine 1		
Thoracic spine 4	Thoracic spine 12		
Thoracic spine 5	Thoracic spine 11		
Thoracic spine 6	Thoracic spine 10		
Thoracic spine 7	Thoracic spine 9		
Thoracic spine 8	Thoracic spine 8		

cervical spine to relieve a condition in the lumbosacral spine or to treat the foot to provide pain relief in the shoulder. These specific relationships are presented in Box 6.2. For example, one would look for a reactive point on the part of the auricle which represents the sixth cervical vertebra to affect the fifth lumbar vertebra and one would treat the first lumbar vertebra to affect the third thoracic vertebra. One could treat the region of the auricle representing the right wrist in order to alleviate a dysfunction in the left ankle or treat the ear point representing the left hip to relieve tension in the right shoulder.

6.13 Precautions associated with auriculotherapy

- Do not treat any pain needed to diagnose an underlying problem.
- Do not relieve any pain that warns a patient against engaging in inappropriate physical activity that could aggravate the condition.
- Be cautious when treating pregnant women. This precaution is mostly required for malpractice reasons, rather than any known clinical evidence regarding possible harmful effects of auriculotherapy upon a fetus or pregnant woman. Nonetheless, Chinese studies have suggested that strong stimulation of the Uterus and Ovary points on the external ear can possibly induce an abortion.
- Do not use on patients with a cardiac pacemaker, even though the electrical microcurrents used in auriculotherapy are delivered at extremely small intensity levels.
- Do not use aggressive stimulation with children or elderly patients who may be particularly sensitive to strong auriculotherapy treatments.
- Avoid treating patients when they are excessively weak, anemic, tired, fasting, hypoglycemic or have just eaten a heavy meal. The treatment will not be as effective.
- Allow nervous, anxious, weak or hypertensive patients some time for a rest after the treatment. It is helpful to offer patients warm tea while they recover.
- Inform the patient not to use alcohol or drugs before the auriculotherapy treatment.
- Some patients may become sleepy or dizzy after a treatment and they may need to lie down for a while. This sedation effect has been attributed to the release of endorphins.
- The most common adverse side effect from auriculotherapy is that the ear becomes red and tender after the treatment. Inform the patient that this tenderness is only temporary.
- Treat patient with antibiotics if the ear becomes infected.

6.14 Hindrances to treatment success

If a patient's disorder persists after auriculotherapy treatment of the corresponding ear points, there may be a therapeutic blockage due to a toxic scar or dental focus. Inquire about the patient's medical history and previous accidents or surgeries. Sometimes a hindrance to treatment is due to an allergy, which is an excess of energy. At other times, there is an obstacle to the transmission of the cellular information because of a region of energy deficiency. The loss of energy may be attributable to the after-effects of an accident or surgery which caused a toxic scar and a short-circuit in the patient's energy. A different type of toxic scar is a dental focus related to continued inflammation from a prior dental procedure. Mercury amalgam in tooth fillings or chronic infection of the gingiva can also produce a dental focus.

Accept that some medical problems presented by a patient can not be effectively treated by auriculotherapy because there is (1) a structural imbalance that needs to be corrected by some physical therapy procedure, or (2) a psychological dysfunction that needs to be addressed by some type of psychotherapeutic intervention. Nogier often combined auriculotherapy with osteopathic manipulations in order to provide structural integration to the neuromuscular changes that could be achieved with auriculotherapy. When the obstacle is due to an unresolved emotional state, stimulation of Point Zero can bring balance to the psychosomatic resistance.

While psychosomatic disorders are often dismissed by physicians and patients alike, there is ample evidence to suggest that psychological factors have a profound impact on many physical conditions. Until emotional issues related to anxiety, depression, loneliness and shame are satisfactorily resolved, a patient's unconscious motivations may defeat the most skilled clinician. Even when patients strongly vocalize that they want to be relieved of their physical suffering, they may not be consciously aware of their own thoughts, attitudes and behaviors that have the opposite

effect. Gentle but firm confrontation regarding the possibility that such psychological barriers exist is often necessary before proceeding further with any medical treatment. Many practitioners are not comfortable addressing such issues with resistant patients, but such confrontations are often very necessary for the eventual improvement of that person's health problems.

6.15 Overall guidelines for auriculotherapy treatments

- 1 Treat as few ear points as possible.
- 2 Only treat ear points that are tender to palpation or are electrically conductive.
- 3 Treat a maximum of three problems at a time, treating the primary problem first.
- 4 Treat ipsilateral ear reflex points for unilateral problems and treat both ears for bilateral conditions.
- 5 If the patient exhibits a laterality or oscillation disorder, the Master Oscillation point should be treated first, then corresponding points on both auricles should be stimulated.
- 6 Treat the front of the external ear for relieving the sensations of pain, then treat the back of the ear for relieving muscle spasms which produce muscle tension and limit range of motion.
- 7 After treating the anatomic points that correspond to the area of the bodily symptom, next treat the master points, and lastly treat supportive functional points.
 - The most commonly used master points are Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point and Master Cerebral point.
 - Anatomic points that are often used as supportive points to alleviate other disorders include ear points for the Occiput, the Chinese Adrenal Gland, the Chinese Kidney, the Chinese Heart, the Lung, the Liver and the Stomach.
 - The most commonly used Chinese functional points are Muscle Relaxation point, Appetite Control point, Brain (Central Rim), Wind Stream (Lesser Occipital nerve), and San Jiao (Triple Warmer).
 - The most frequently used European functional points are Vitality point, Antidepressant point, Aggressivity point and Psychosomatic point.
- 8 Treat Nogier Phase II and Phase III points if successful results are not obtained with Phase I points or with Chinese ear points. Phase II points are indicated for chronic deficiency conditions, whereas Phase III ear points are indicated for chronic excess conditions.
- 9 Evaluate the patient for the presence of physical hindrances or psychological obstacles that could interfere with the treatment. One might also notice if treating reactive points on the ear related to geometric, inverse, or contrary relationships improves the clinical effectiveness of the auriculotherapy treatment.
- 10 Auriculotherapy works very well with other treatment modalities. It is quite common to combine ear acupuncture and body acupuncture in the same treatment session.
 - Chinese herbs, moxibustion, homeopathic medicines and acupressure massage can be effectively integrated with auriculotherapy as well as body acupuncture.
 - Postural adjustments with osteopathic or chiropractic manipulations serve to facilitate the reduction of muscle spasms attained with auricular stimulation.
 - Biofeedback, hypnosis, meditation and yoga all serve to augment the general relaxation effect seen with auriculotherapy.
 - Patients with psychosomatic disturbances would probably benefit from psychotherapeutic interventions if they could accept the perspective that unconscious emotional conflicts could be a contributing factor to their physical health problem.
 - Any procedure used as standard medical practice for the condition being treated can be further enhanced by the use of auriculotherapy.

Somatotopic representations on the ear

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Over 20 books on auricular acupuncture have been consulted to determine the anatomical location and somatotopic function of specific regions of the ear. Texts which focus on the identification of Chinese ear acupuncture points include: Huang (1974), Wexu (1975), Nahemkis & Smith (1975), Lu (1975), Van Gelder (1985), Grobglas & Levy (1986), Chen & Cui (1991), Zhao hao et al. (1991), König & Wancura (1993), Shan et al. (1996) and Huang (1996). Journal articles and conference presentations by Zhou (1995, 1999) have addressed the most recent Chinese publications for the standardization of auricular points. A European perspective on the corresponding representations of the gross anatomy on the external ear begins with the pioneering work of Paul Nogier (1972, 1983, 1987, 1989). The latter texts present the three phases of the auricular microsystem as delineated by Nogier. Other books which have described the somatotopic localization of auricular points in the European schools of auriculotherapy and auricular medicine include the following: Bahr (1977), Bourdiol (1982), Kropiej (1984), Van Gelder (1992), Bucek (1994), Pesikov & Rybalko (1994), Strittmatter (1998, 2001) and Rubach (2001). Information from all of these texts was combined to determine the location and function of the auricular points described by the Chinese and the European schools of auriculotherapy.

In general, there is more congruence than disparity between the Chinese and European somatotopic maps for the auricle. Even when there are noticeable differences between the two systems, the corresponding points are often located on adjacent regions of the external ear. The lower extremities are located on the antihelix superior crus in the Chinese ear charts, but the legs are localized to the triangular fossa in the European cartography. These two auricular areas lie

Overview of auricular microsystem somatotopic maps

Master points	Represented throughout auricle
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Auricular representation of the musculoskeletal system and sensory systems

Spinal Vertebrae and Anterior Body	Represented on antihelix
Leg and Foot	Represented on triangular fossa and superior crus
Arm and Hand	Represented on scaphoid fossa
Head and Skull	Represented on antitragus
Face, Jaw, Teeth and Tongue	Represented on lobe
Sensory Organs	Represented on lobe, tragus, and subtragus

Auricular representation of internal organs

Digestive Organs	Represented on concha around helix root
Thoracic Organs	Represented on inferior concha
Abdominal Organs	Represented on superior concha and concha ridge
Urogenital Organs	Represented on superior concha and internal helix
Endocrine Glands	Represented on concha wall

Auricular representation of the nervous system

Somatic peripheral nerves	Represented on antihelix
Sympathetic peripheral nerves	Represented on concha wall
Spinal Cord and Brainstem	Represented on helix tail and lobe
Subcortical Brain Nuclei	Represented on antitragus and concha wall
Cerebral Cortex	Represented on lobe

Auricular representation of functional conditions

Chinese primary functional points
Chinese secondary functional points
European primary functional points
European secondary functional points

next to each other, and in each case the hip is found toward the inferior tip of the triangular fossa and the feet are found toward the top of the ear. The Chinese assert that the kidney is found in the superior concha and the spleen in the inferior concha, whereas European texts maintain that the kidney is located underneath the helix root and the spleen is found above the concha ridge. In each case, though, the kidney is found toward the upper regions of the auricle where both schools locate the bladder and the spleen is found on each side of the Liver point, which is also in the same area of the concha in both schools. A general impression is that the European ear points delineate the musculoskeletal points and neuroendocrine points more precisely, whereas the Chinese charts seem to indicate the location of the internal organs more accurately. That so much of Oriental medicine is focused on the constitutional factors established by the internal organs, and that each acupuncture channel is named for an internal organ, may provide good reason for this difference. European approaches to auriculotherapy have placed greater emphasis on the neurophysiological control of the musculoskeletal system and the relationship of each organ to the embryological tissue from which it originates. The Nogier system of three different phases related to three different territories on the auricle may at first seem overly complex and confusing, but the clinical applicability of these phases becomes easier with continued practice.

7.1 Master points on the ear

The master points are so identified because they are typically active in most patients and they are useful for the treatment of a variety of health disorders. The practitioner should first stimulate the appropriate corresponding points for a given anatomical organ, and then stimulate the master points also indicated for that medical condition.

Each auricular point presented in this text is identified with a number, the point's principal name, alternative names, and the auricular zone (AZ) where it is found. If an auricular zone location includes a slash (/), the ear point occurs at the junction of two zones. The location of each ear point is described with regard to a specific region of auricular anatomy and the nearest auricular landmark (LM). The physiological function of the corresponding organ or the health disorders affected by a particular ear point are presented after the location of that ear point.

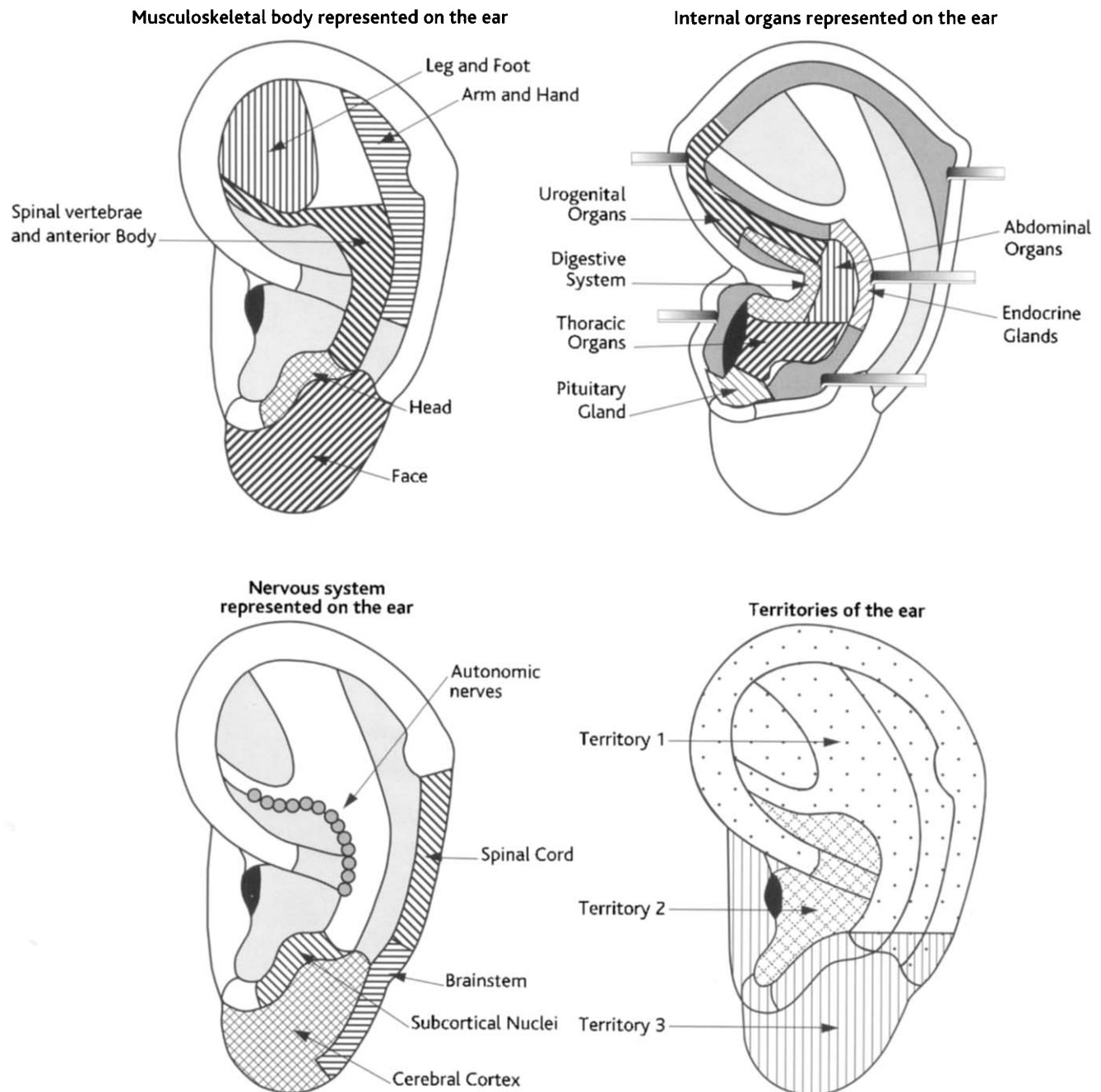


Figure 7.1 Overview of the musculoskeletal body, internal organs and the nervous system represented on the external ear. Also indicated are the three primary territories of the auricle.

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
0.0	Point Zero (<i>Ear Center, Point of Support, Umbilical Cord, Solar Plexus</i>) <p><i>Location:</i> Notch on the helix root at LM 0, just as the vertically ascending helix rises from the more horizontal concha ridge.</p> <p><i>Function:</i> This master point is the geometrical and physiological center of the whole auricle. It brings the whole body towards homeostasis, producing a balance of energy, hormones and brain activity. It supports the actions of other auricular points and returns the body to the idealized state which was present in the womb. On the auricular somatotopic map, Point Zero is located where the umbilical cord would rise from the abdomen of the inverted fetus pattern found on the ear. As the solar plexus point, Point Zero serves as the 'autonomic brain' that controls visceral organs through peripheral nerve ganglia.</p>	[HX 1/CR 1]
1.C	Shen Men (<i>Spirit Gate, Divine Gate</i>) <p><i>Location:</i> Superior and central to the tip of the triangular fossa, between the junction of the superior crus and the inferior crus of the antihelix. It is not at the tip of the triangular fossa, but slightly inward and slightly upward from where the triangular fossa descends from the superior crus toward deeper regions of the triangular fossa.</p> <p><i>Function:</i> The purpose of Shen Men is to tranquilize the mind and to allow a harmonious connection to essential spirit. This master point alleviates stress, pain, tension, anxiety, depression, insomnia, restlessness, and excessive sensitivity. The Chinese believe that Shen Men affects excitation and inhibition of the cerebral cortex, which is similar in function to Nogier's second phase Thalamus point localized to the same area of the ear. Utilized in almost all treatment plans, including auricular acupuncture analgesia for surgery. Shen Men was one of the first points emphasized for the detoxification from drugs and the treatment of alcoholism and substance abuse. It is also used to reduce coughs, fever, inflammatory diseases, epilepsy and high blood pressure. When it is difficult to find tender or electrically active ear points, stimulation of either Shen Men or Point Zero increases the reactivity of other auricular points, making it easier to detect them.</p>	[TF 2]
2.0	Sympathetic Autonomic point <p><i>Location:</i> Junction of the more vertically rising internal helix and the more horizontal inferior crus, directly below LM 1. It is covered by the brim of the helix root above it, thus making this ear point difficult to view directly from the external surface of the ear. It can be found on the vertically rising internal helix wall, on the flat ledge of the inferior crus or at the junction where the two meet.</p> <p><i>Function:</i> This master point balances sympathetic nervous system activation with parasympathetic sedation. This point is the primary ear locus for diagnosing visceral pain and for inducing sedation effects during acupuncture. It improves blood circulation by facilitating vasodilation, corrects irregular or rapid heart beats, reduces angina pain, alleviates Raynaud's disease, reduces visceral pain from internal organs, calms smooth muscle spasms and reduces neurovegetative disequilibrium. It is also used for the treatment of kidney stones, gall stones, gastric ulcers, abdominal distension, asthma and dysfunctions of the autonomic nervous system.</p>	[IH 4/AH 7]
3.0	Allergy point <p><i>Location:</i> Internal and external sides of the apex of the ear, below or at LM 2.</p> <p><i>Function:</i> This master point leads to a general reduction in inflammatory reactions related to allergies, rheumatoid arthritis and asthma. It is used for the elimination of toxic substances, the excretion of metabolic wastes and treatment of anaphylactic shock. In Oriental medicine, the top surface of the Allergy point is pricked with a needle to reduce excess qi or it is pinched to diminish allergic reactions.</p>	[IH 7 or HX 7]
4.0	Thalamus point (<i>Subcortex, Brain, Pain Control point</i>) <p><i>Location:</i> Base of the concha wall which lies behind the antitragus. To detect this point, follow a vertical ridge which descends down the concha wall from the apex of the antitragus (LM 13). It is located on the internal surface behind the antitragus, where the concha wall meets the floor of the inferior concha.</p> <p><i>Function:</i> This master point represents the whole diencephalon, including the thalamus and the hypothalamus. It affects thalamic relay connections to the cerebral cortex and hypothalamic regulation of autonomic nerves and endocrine glands. The thalamus is like a preamplifier for signals sent to the cerebral cortex, refining the neural message and eliminating meaningless background noise. The thalamus is the highest level of the supraspinal gate control system, and so is used for</p>	[CW 2/IC 4]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
	<p>most pain disorders, acute and chronic, and is frequently used for auricular acupuncture analgesia. It also reduces neurasthenia, anxiety, depression, schizophrenia, over-excitement, sweating, swelling, shock, hypertension, coronary disorders, cardiac arrhythmias, Raynaud's disease, gastritis, nausea, vomiting, diarrhea, constipation, liver disorders and gall bladder dysfunctions. In TCM, the Thalamus Subcortex point tonifies the brain and calms the mind. In the Nogier phase system, the Phase II Thalamus is located in the region of Shen Men and Phase III Thalamus is located in the region of the Lung. These three points, Thalamus, Shen Men and Lung, are all used for drug detoxification.</p>	
6.O	Endocrine point (<i>Internal Secretion, Pituitary Gland</i>) <i>Location:</i> Wall of the intertragic notch, below LM 9. <i>Function:</i> This master point brings endocrine hormones to their appropriate homeostatic levels, either raising or lowering glandular secretions. It functions by activating the pituitary gland below the brain. The pituitary is the master gland controlling all other endocrine glands. It relieves hypersensitivity, rheumatism, hyperthyroidism, diabetes mellitus, irregular menstruation, sexual dysfunction and urogenital disorders. It has antiallergic, antirheumatic, and anti-inflammatory effects. In TCM treatments, it reduces dampness and relieves swelling and edema.	[IT 2]
6.E	Master Oscillation point (<i>Laterality point, Switching point</i>) <i>Location:</i> Underside of the subtragus, internal to the inferior tragus protrusion, LM 10. <i>Function:</i> This master point balances laterality disorders related to the left and right cerebral hemispheres. Anatomically it represents the corpus callosum and the anterior commissure. The point is active in those persons who are left handed or mixed dominant in handedness. Whereas 80% of individuals show ipsilateral representation of body organs, 20% of patients exhibit contralateral representation of body organs. These individuals are viewed as oscillators in the European school of auriculotherapy, and this laterality dysfunction is labeled 'switched' in some chiropractic schools. Stimulation of this auricular point in oscillators is often necessary before any other auriculotherapy treatment can be effective. After stimulation of the Master Oscillation point, auricular points that were initially more electrically active on the contralateral ear may become more conductive on the ipsilateral ear. This point is used to alleviate dyslexia, learning disabilities and attention deficit disorder. People who have unusual or hypersensitive reactions to prescription medications or autoimmune problems often need to be treated for oscillation.	[ST 3]
7.O	Tranquilizer point (<i>Valium Analog point, Hypertensive point</i>) <i>Location:</i> Inferior tragus as it joins the face, lying halfway between LM 9 and LM 10. <i>Function:</i> This master point produces a general sedation effect, facilitating overall relaxation and relieving generalized anxiety. It also reduces high blood pressure and chronic stress.	[TG 2]
8.E	Master Sensorial point (<i>Eye point</i>) <i>Location:</i> Middle of the lobe, vertically inferior to LM 13 and vertically superior to LM 7. It is found at the same site as the Eye point. <i>Function:</i> This master point controls the sensory cerebral cortex areas of the parietal lobe, the temporal lobe, and the occipital lobe. It is used to reduce any unpleasant or excessive sensation, such as tactile paresthesia, ringing in the ears and blurred vision.	[LO 4]
9.O	Master Cerebral point (<i>Master Omega, Nervousness, Neurasthenia, Worry</i>) <i>Location:</i> Where the medial ear lobe meets the face. It lies vertically inferior to the intertragic notch. <i>Function:</i> This master point represents the prefrontal lobe of the brain, the part of the cerebral cortex which makes decisions and initiates conscious action. Stimulation of this auricular point diminishes nervous anxiety, fear, worry, lassitude, dream-disturbed sleep, poor memory, obsessive-compulsive disorders, psychosomatic disorders, and the negative pessimistic thinking which often accompanies chronic pain problems.	[LO 1]

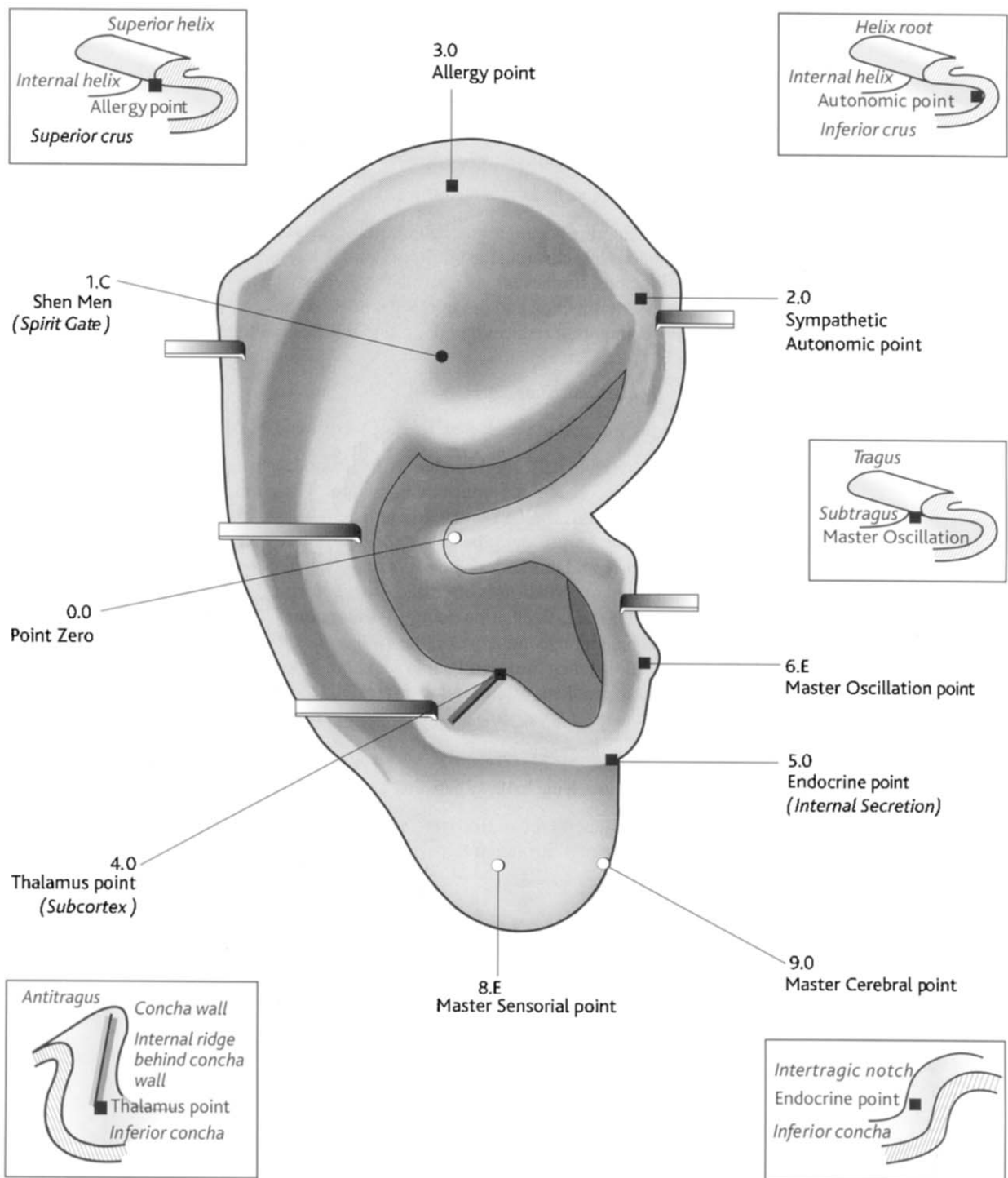


Figure 7.2 Hidden view of auricular master points. The Tranquilizer point is not shown in Figure 7.2 because this point on the external tragus is only visible from a Surface View, as indicated in Figure 7.3.

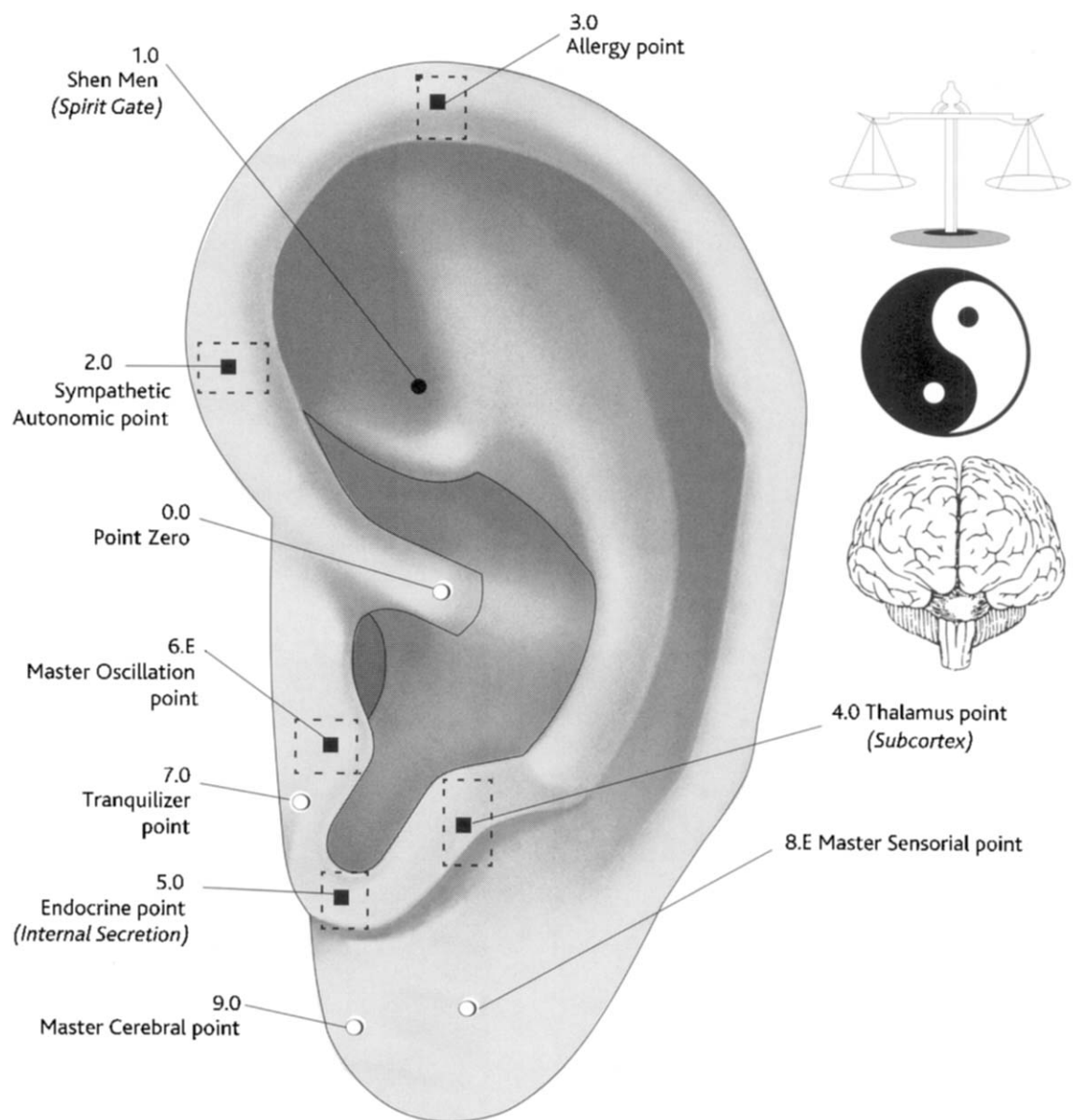


Figure 7.3 Surface view of auricular master points.

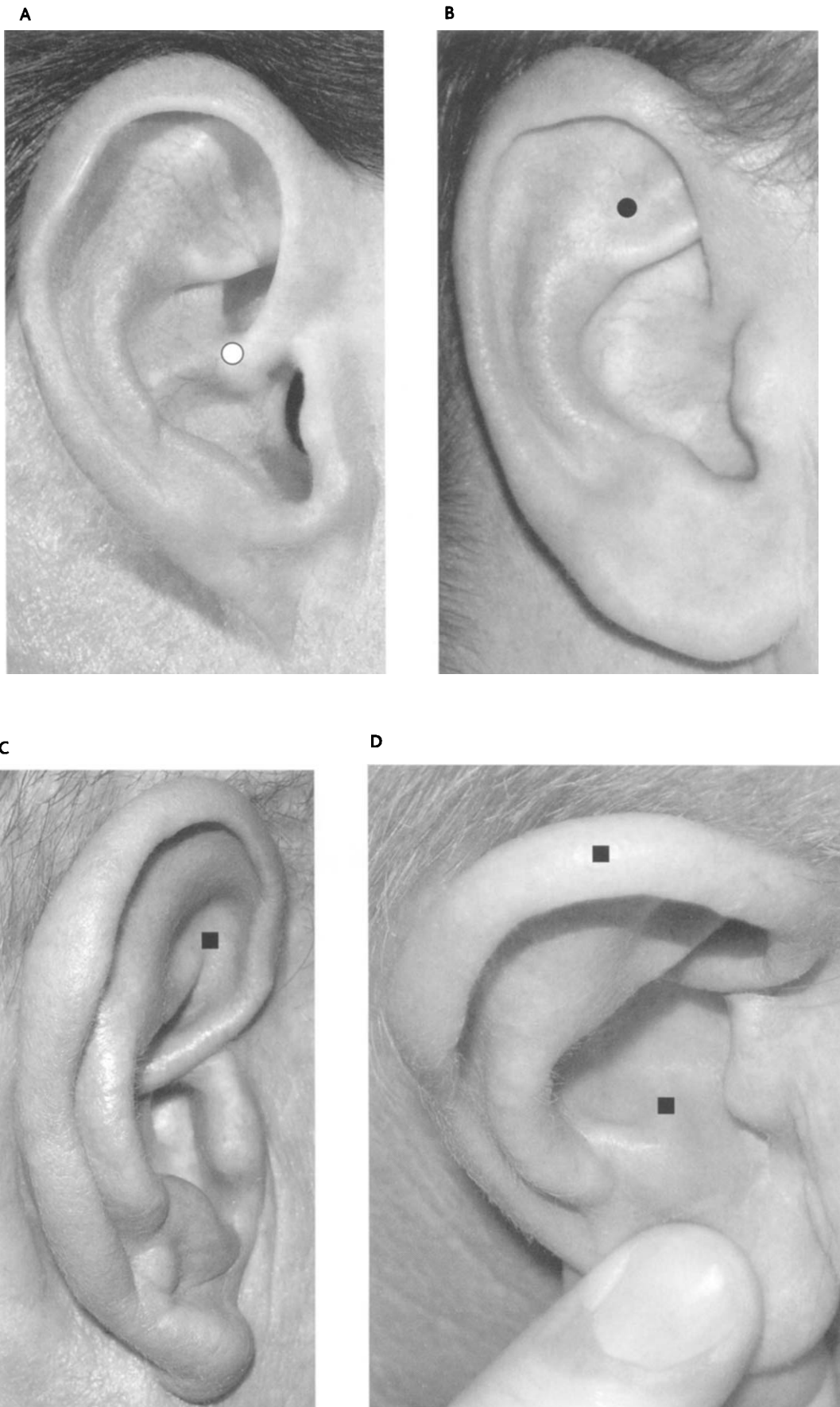


Figure 7.4 Photographs of the master points: Point Zero (A), Shen Men (B), Sympathetic Autonomic point (C), Allergy point and Thalamus point (D).

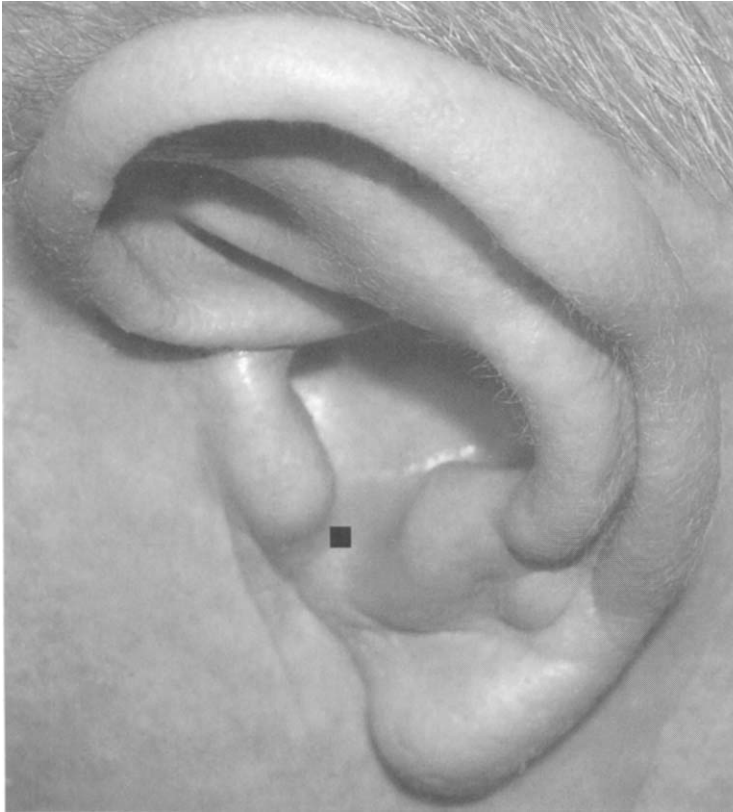
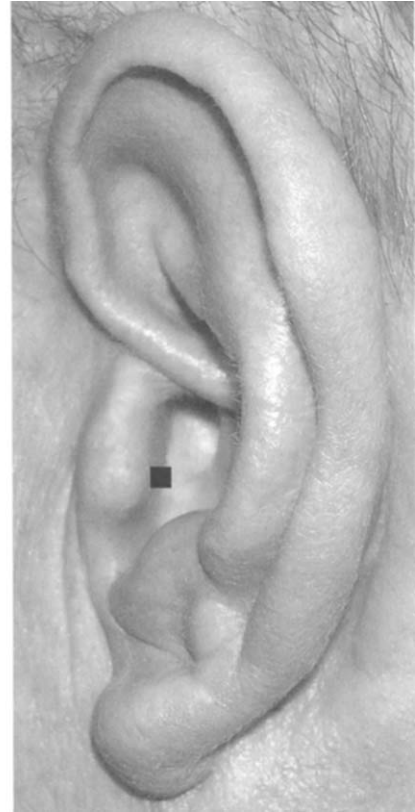
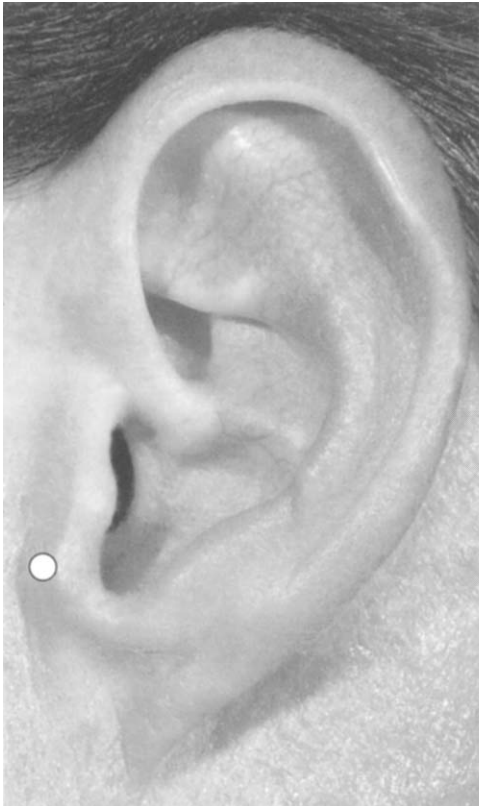
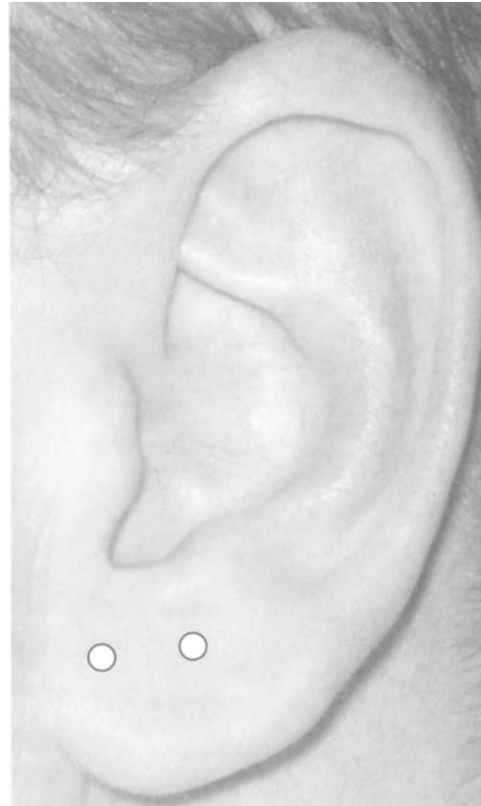
A**B****C****D**

Figure 7.5 Photographs of the master points: Endocrine point (A), Master Oscillation point (B), Tranquilizer point (C), Master Sensorial point and Master Cerebral point (D).

7.2 Auricular representation of the musculoskeletal system

The anatomical location of all auricular points presented in this text are described verbally and are also indicated by their zone location. If different auricular regions represent a single corresponding part of the body, as seen in Chinese and European ear points, or differences in the Nogier phase location of a point, the function of that ear point is presented with the first citation of that point. The nomenclature system described in Chapter 4 will be used with each auricular microsystem point. Chinese ear points will be represented by the extension .C, European ear points by .E, and ear points that are the same in both systems by .0. The three phases of the Nogier (French) system will be designated by the extensions .F1, .F2, and .F3. Each anatomical area of the body and each functional condition is designated by a different Arabic number. Whether the musculoskeletal point is found in Territory 1 in Phase I, Territory 2 in Phase II, or Territory 3 in Phase III, the optimal electrical stimulation for that ear point will be 10 Hz.

Musculoskeletal auricular points represent the skin, muscles, tendons, ligaments and skeletal bone structures of the corresponding body area, as well as blood vessel circulation to that area. These ear reflex points represent somatic nervous system reflexes controlling limb and postural movements and autonomic sympathetic reflexes affecting vascular supply to a body region.

Most pain problems are due to myofascial pain related to chronic restimulation of sensory neuron feedback. A muscle in spasm reactivates interneurons in the spinal cord to restimulate motor neuron excitation, which leads to more neural impulses going to the muscle, causing the muscle to stay in spasm. Muscles do not stay in spasm without a neuron causing them to contract and auricular stimulation serves to disrupt the feedback loop between sensory neuron and motor neuron.

Clinical problems treated by ear reflex points include relief of muscle tension, muscle strains, muscle tremors, muscle weakness, tendonitis, sprained ligaments, bone fractures, bone spurs, peripheral neuralgias, swollen joints, arthritis, shingles, sunburns, skin irritations and skin lesions.

For all ear reflex points, the anterior surface of the ear is used to treat the sensory neuron aspects of nociceptive pain sensation, whereas the posterior surface of the ear is used to treat the motor neuron aspects of muscular spasm.

The consensus for the Chinese location of the vertebral column is not clear. Some Chinese charts concur with European maps that the spine is located on the concha side of the antihelix ridge, whereas other Chinese charts put it on the scaphoid fossa side of the antihelix ridge. The Phase I location of ear points for the cervical, thoracic and lumbar vertebrae, designated .F1, are most similar to the Chinese identification of the regions of the auricle which correspond to the spine. The Phase IV location for the vertebrae and for other musculoskeletal tissue is found on the posterior region of the auricle immediately behind the Phase I location. For the spine, these points are located on the posterior groove.

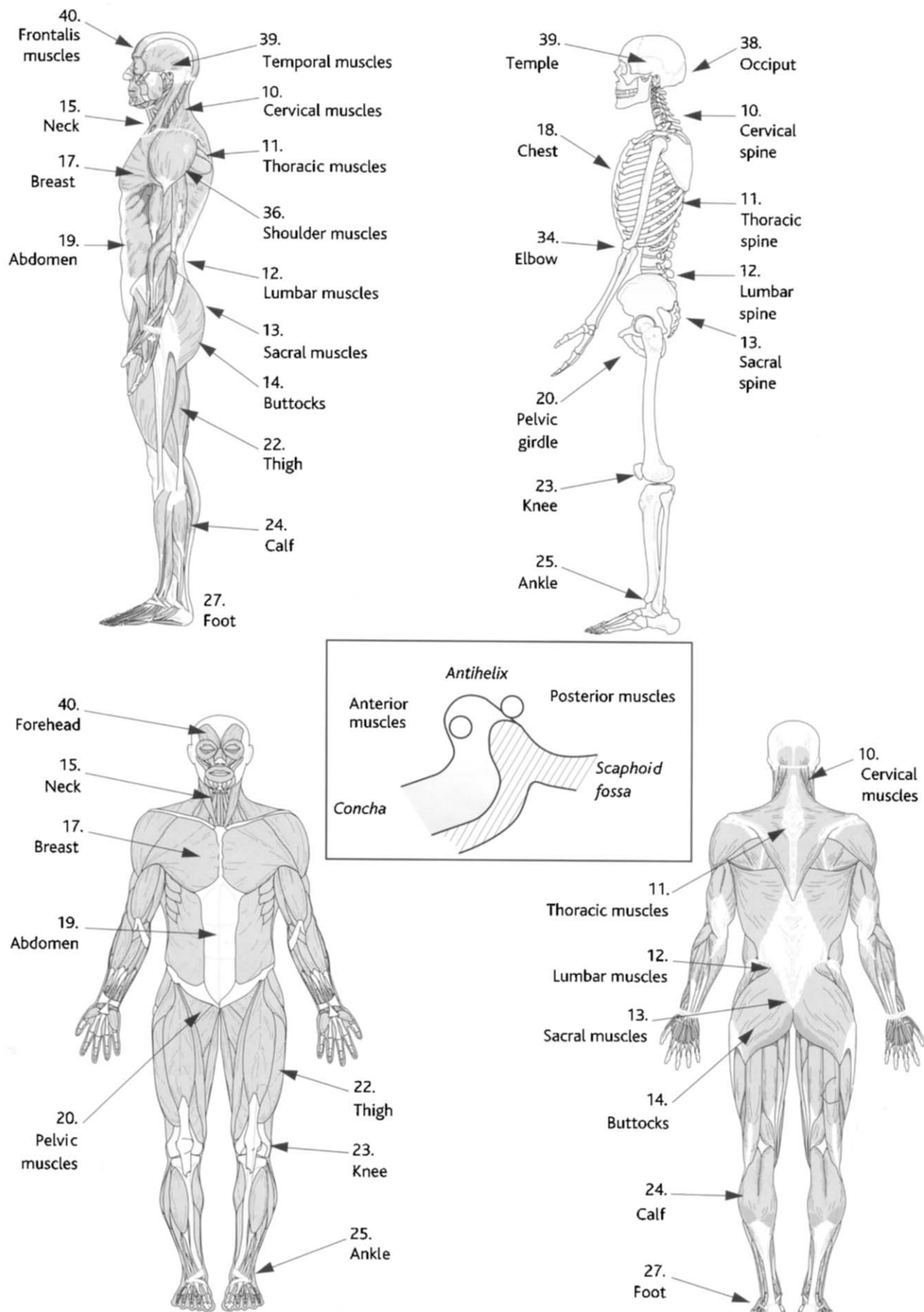


Figure 7.6 Overview of the muscular and skeletal systems.

7.2.1 Vertebral spine and anterior body represented on the antihelix

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
10.C	Cervical Spine.C <i>Location:</i> Ridge and scaphoid fossa side of the antihelix tail. <i>Function:</i> Relieves neck strain, neck pain, torticollis, headaches, TMJ.	[AH 8]
10.F1	Cervical Spine.F1 (<i>Cervical Vertebrae, Posterior Neck muscles</i>) <i>Location:</i> Concha side of the antihelix tail, between LM 14 and LM 15. The C1 vertebra lies central to the antitragus–antihelix groove and runs along the narrow ridge of the antihelix tail up to C7 above the concha ridge. <i>Function:</i> Improves range of motion of tight muscles along the neck, increasing flexibility and circulation.	[AH 1, AH 2, PG 2]
10.F2	Cervical Spine.F2 <i>Location:</i> Peripheral concha ridge below LM 15, where the concha floor lies next to the concha wall.	[CR 2]
10.F3	Cervical Spine.F3 <i>Location:</i> Inferior region of the tragus, between LM 9 and LM 10. Located at the Tranquilizer point.	[TG 2]
11.C	Thoracic Spine.C <i>Location:</i> Ridge and scaphoid fossa side of the antihelix body. <i>Function:</i> Relieves upper back pain, low back pain, shoulder pain, arthritis.	[AH 9, AH 10]
11.F1	Thoracic Spine.F1 (<i>Upper Back, Dorsal Spine, Thoracic Vertebrae</i>) <i>Location:</i> Concha side of the antihelix body, between LM 15 and LM 16. The T1 vertebra lies above the concha ridge, across from LM 0. The other thoracic vertebrae are sequentially found along the sloping antihelix as it curves upward and medially toward the inferior crus.	[AH 3, AH 4, PG 3, PG 4]
11.F2	Thoracic Spine.F2 <i>Location:</i> Medial concha ridge, just peripheral to LM 0.	[CR 1]
11.F3	Thoracic Spine.F3 <i>Location:</i> Middle region of the tragus, between LM 10 and LM 11.	[TG 3, TG 4]
12.C	Lumbar Spine.C (<i>Lower Back, Lumbar Vertebrae, Sacroiliac</i>) <i>Location:</i> Upper region of the antihelix body. <i>Function:</i> Representing sacroiliac muscles and ligaments, this point relieves low back pain, sciatica pain, peripheral neuralgia, back strain and disc degeneration.	[AH 11]
12.F1	Lumbar Spine.F1 <i>Location:</i> Top surface of the antihelix inferior crus, between LM 16 and LM 17. The L1 vertebra occurs at LM 16, where the inferior crus begins, and proceeds along the flat ledge of the inferior crus to L5 at LM 17.	[AH 5, AH 6, PG 5, PG 6]
12.F2	Lumbar Spine.F2 <i>Location:</i> Rising helix root, above LM 0.	[HX 1]
12.F3	Lumbar Spine.F3 <i>Location:</i> Superior region of the tragus, above LM 10.	[TG 5]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
13.F1	Sacral Spine.F1 (<i>Coccyx</i>) <i>Location:</i> Top surface of the antihelix inferior crus, between LM 17 and LM 1. The S1 vertebra occurs at the midpoint of the inferior crus, at LM 17, while S5 is found below the Lung point. <i>Function:</i> Relieves low back pain, sciatica pain.	[AH 7, PG 7]
14.0	Buttocks (<i>Gluteus Maximus muscles</i>) <i>Location:</i> Top surface of the antihelix inferior crus, near LM 16. <i>Function:</i> Relieves pain in buttocks muscles, low back pain, sciatica, hip pain.	[AH 5, PG 5]
15.0	Neck (<i>Anterior Neck muscles, Throat muscles, Scalene muscles</i>) <i>Location:</i> Scaphoid fossa side of the antihelix tail, superior to LM 14. <i>Function:</i> Relieves neck tension, sore throats, torticollis, hyperthyroidism.	[AH 8, AH 9, PP 1, PP 3]
16.C	Clavicle.C (<i>Collarbone</i>) <i>Location:</i> Inferior scaphoid fossa groove peripheral to the Neck point. <i>Function:</i> Relieves clavicle fracture, shoulder pain, arthritic shoulder, rheumatism, upper back pain.	[SF 1]
16.E	Clavicle.E (<i>Collarbone, Scapula, Shoulder Blade</i>) <i>Location:</i> Antihelix region near the scaphoid fossa which lies peripheral to the Neck and Chest points, at the junction of the antihelix body and antihelix tail at LM 15.	[AH 9, PP 3]
17.0	Breast <i>Location:</i> Scaphoid fossa side of the antihelix body, superior to LM 15. <i>Function:</i> Relieves premenstrual breast tenderness, breast cancer.	[AH 10]
18.0	Chest (<i>Thorax, Ribs, Sternum, Breast, Pectoral muscles</i>) <i>Location:</i> Antihelix body, superior to LM 15 and near the Breast point. <i>Function:</i> Relieves chest pain, chest heaviness, intercostal pain, angina pectoris, cough, asthma, hiccups.	[AH 10, PP 3]
19.0	Abdomen (<i>Abdominal muscles, Outside Abdomen</i>) <i>Location:</i> Superior side of the antihelix body. <i>Function:</i> Relieves abdominal pain, low back pain, hernias.	[AH 11, AH 12, PP 5]
20.0	Pelvic Girdle (<i>Pelvis, Pelvic Cavity</i>) <i>Location:</i> Tip of the triangular fossa, superior to LM 16 and below the Shen Men point. <i>Function:</i> Relieves groin pain, low back pain, hernias, digestive disorders.	[TF 2, PG 8]

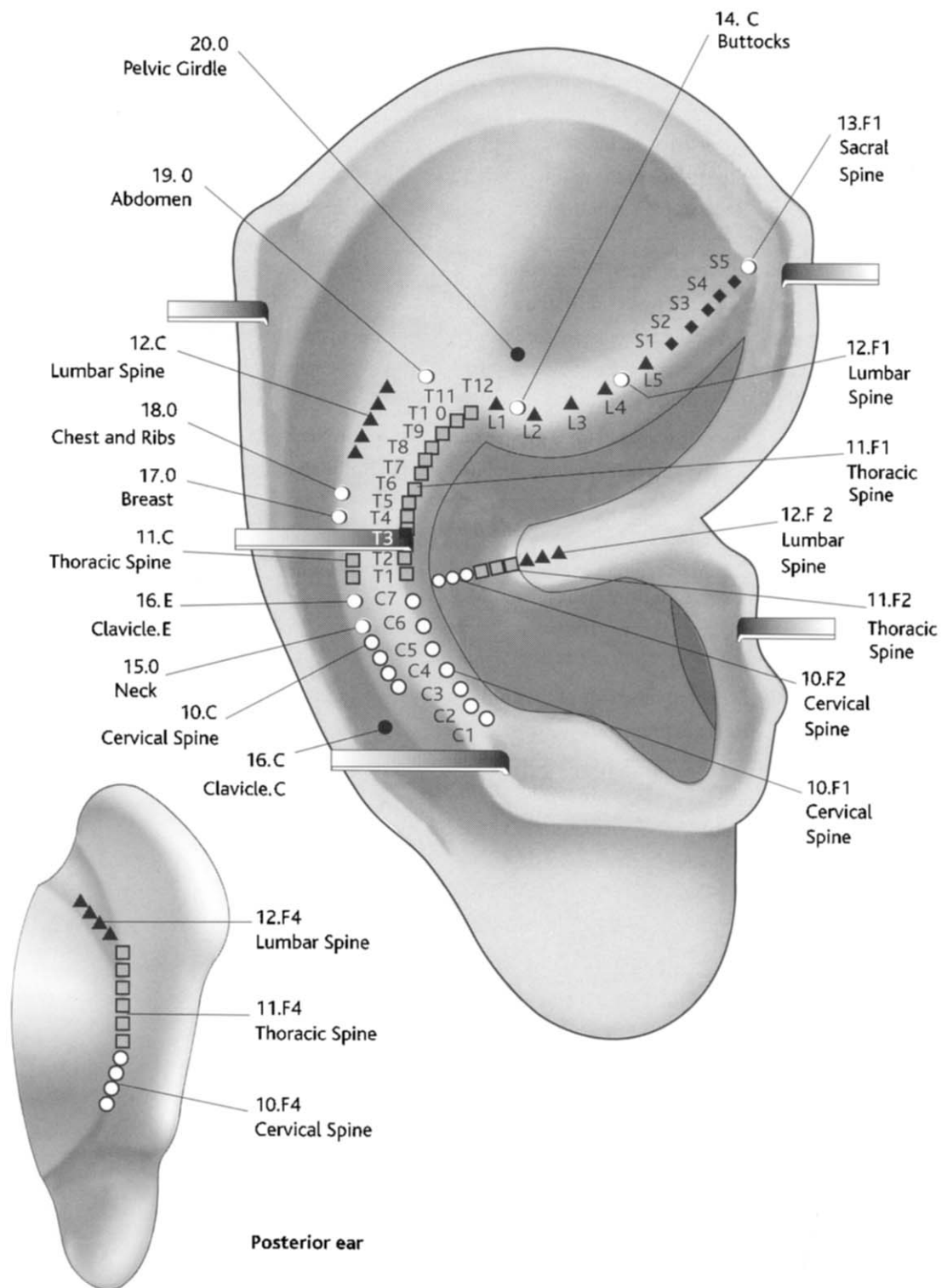


Figure 7.7 Hidden view of the musculoskeletal spine represented on the antihelix. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

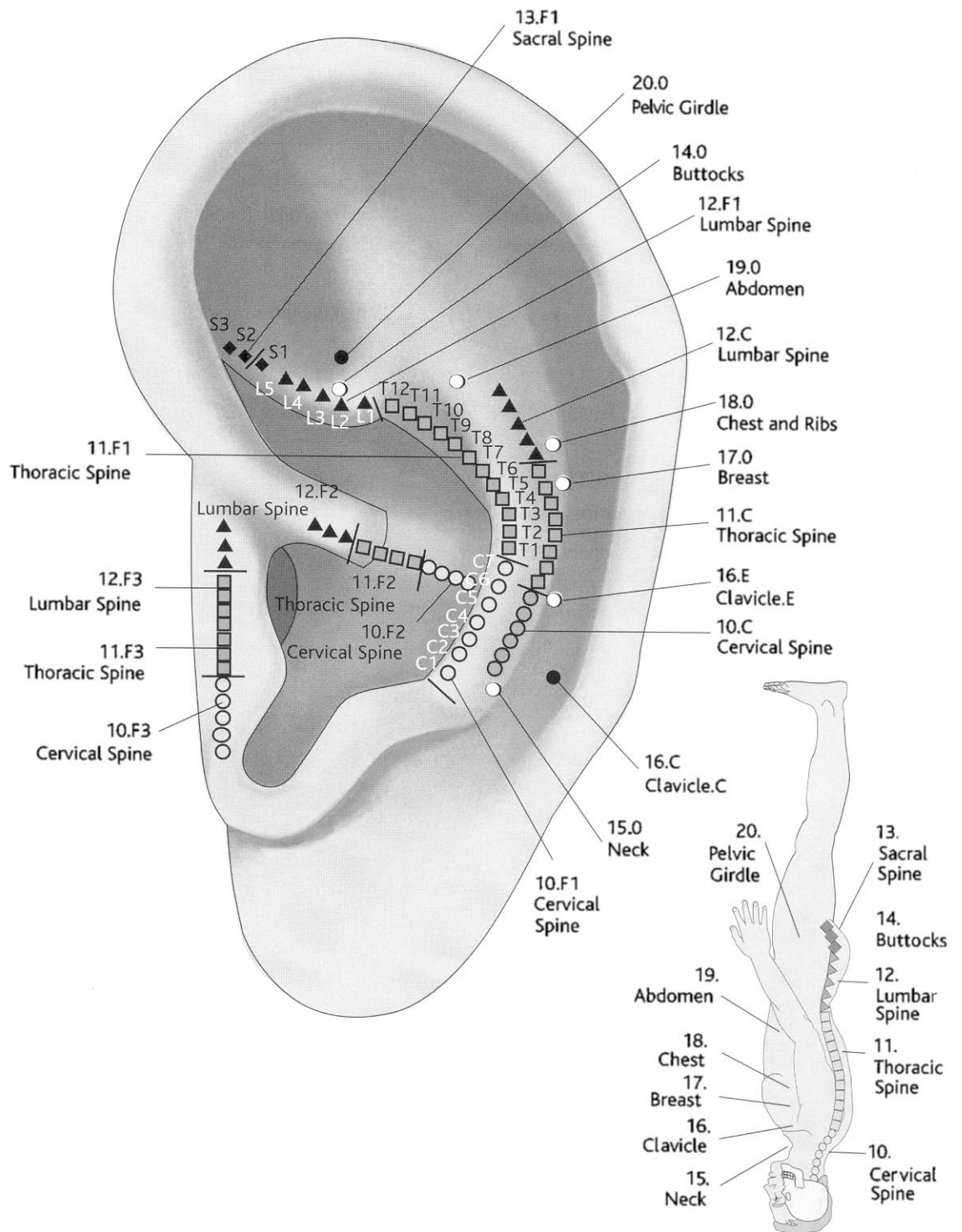


Figure 7.8 Surface view of the musculoskeletal spine represented on the antihelix. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

7.2.2 Leg and foot represented on the superior crus and triangular fossa

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
21.C	Hip.C <i>Location:</i> Lower region of the antihelix superior crus, peripheral to the Shen Men point. <i>Function:</i> Relieves hip pain, low back pain.	[AH 13]
21.F1	Hip.F1 (<i>Coxofemoral joint</i>) <i>Location:</i> Peripheral tip of the triangular fossa, inferior and central to the Shen Men point.	[TF 1, PT 1]
21.F2	Hip.F2 <i>Location:</i> Floor of the lower inferior concha, in the region of the intertragic notch.	[IC 1, IC 2]
21.F3	Hip.F3 <i>Location:</i> Peripheral antitragus and the inferior antihelix tail and scaphoid fossa.	[AT 3, AH 1]
22.0	Thigh (<i>Upper Leg, Quadriceps muscles, Femur</i>) <i>Location:</i> Inferior triangular fossa, immediately above the Buttocks point. <i>Function:</i> Relieves upper leg pain, pulled hamstring muscles.	[TF 3, PT 1]
23.C1	Knee 1 (<i>Knee joint, Knee articulation</i>) <i>Location:</i> Middle region of the antihelix superior crus, alongside the triangular fossa. <i>Function:</i> Relieves knee pain, strained knee, broken knee.	[AH 15]
23.C2	Knee 2 (<i>Genus of Knee</i>) <i>Location:</i> Peripheral region of the antihelix superior crus, alongside the scaphoid fossa.	[AH 14]
23.F1	Knee.F1 (<i>Patella</i>) <i>Location:</i> Middle of the depth of the triangular fossa, central to the Shen Men point.	[TF 4, PT 2]
23.F2	Knee.F2 <i>Location:</i> Floor of the inferior concha, in the region of the Thalamus point.	[IC 2, IC 4]
23.F3	Knee.F3 <i>Location:</i> Middle range of the antitragus ridge, inferior to LM 13.	[AT 2, CW 2]
24.E	Calf.E (<i>Lower Leg, Gastrocnemius muscle, Tibia and Fibula bones</i>) <i>Location:</i> Inferior, medial region of the triangular fossa. <i>Function:</i> Relieves lower leg pain.	[TF 5, PT 3]
25.C	Ankle.C <i>Location:</i> Superior aspect of the antihelix superior crus. <i>Function:</i> Relieves ankle pain, swollen ankles.	[AH 17, PP 12]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
25.F1	Ankle.F1 <i>Location:</i> Central region of the triangular fossa.	[TF 6, PT 3]
25.F2	Ankle.F2 <i>Location:</i> Floor of the peripheral inferior concha, below the lower antihelix tail.	[IC 5]
25.F3	Ankle.F3 <i>Location:</i> Central range of the antitragus ridge.	[AT 1]
26.C	Heel.C <i>Location:</i> Highest region of the antihelix superior crus, covered by the superior helix brim. <i>Function:</i> Relieves heel pain, foot pain.	[AH 17, PP 12]
26.E	Heel.E (<i>Tarsus</i>) <i>Location:</i> Most central region of the triangular fossa, covered by the superior helix brim. It is immediately adjacent to the medial end of the inferior crus and to the Sympathetic Autonomic point.	[TF 5, PT 3]
27.F1	Foot.F1 (<i>Metatarsals</i>) <i>Location:</i> Triangular fossa, covered by the superior helix brim. <i>Function:</i> Relieves foot pain, peripheral neuralgia in the feet.	[TF 5 & TF 6, PT 3]
27.F2	Foot.F2 <i>Location:</i> Floor of the peripheral inferior concha, near the concha ridge and the concha wall.	[IC 5]
27.F3	Foot.F3 <i>Location:</i> Intertragic notch.	[IT 1, IT 2]
28.C	Toes.C <i>Location:</i> Superior crus, covered by the superior helix brim. The toes are more peripheral than the points for the heel. <i>Function:</i> Relieves pain in toes, strained toe, inflamed toe, frostbite, peripheral neuralgia in the feet.	[AH 18, PP 12]
28.E	Toes.E <i>Location:</i> Triangular fossa, covered by the superior helix brim. The large toe is the highest point on the triangular fossa, close to the top of the superior crus of the antihelix.	[TF 6, PT 3]

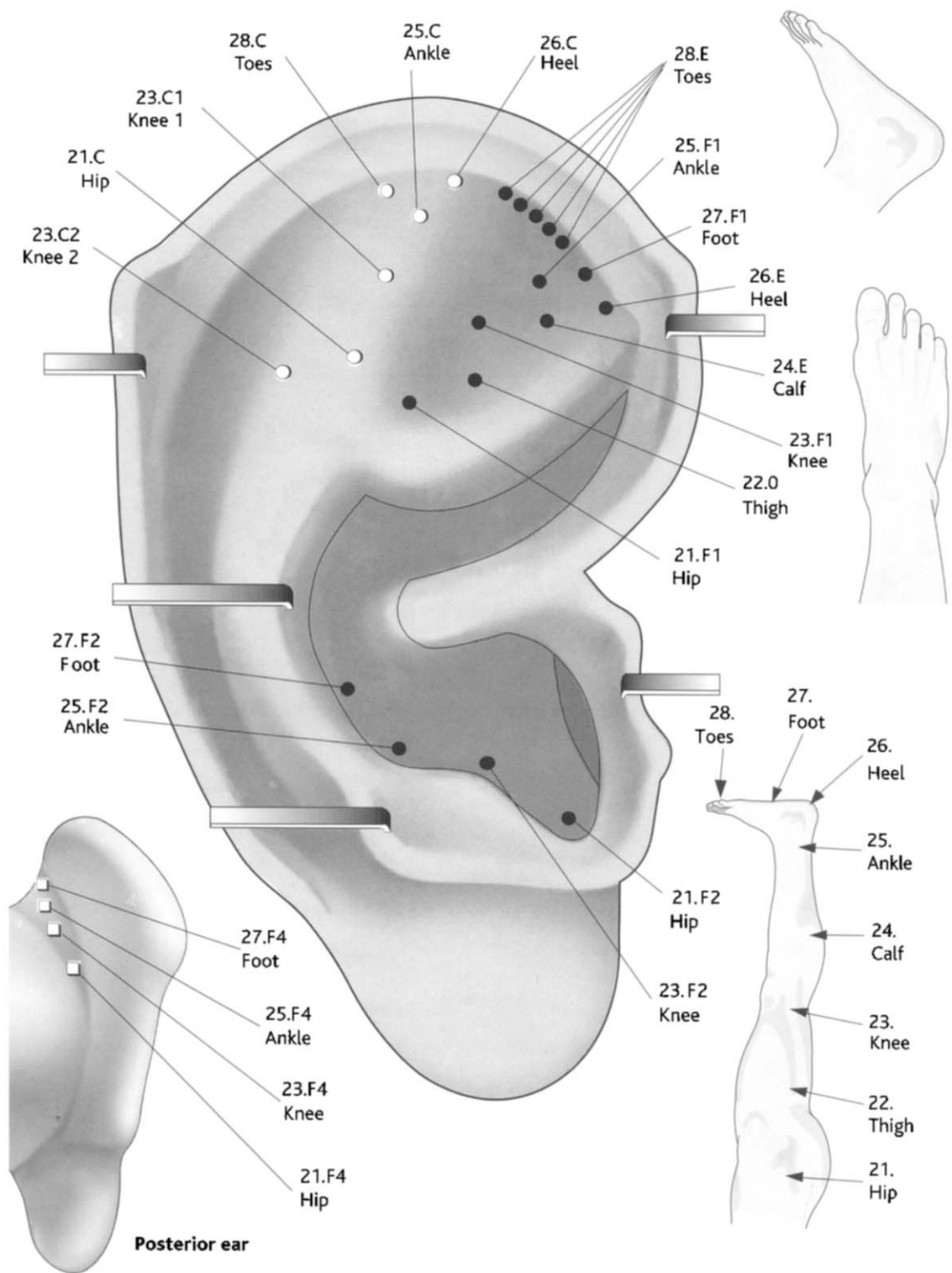


Figure 7.9 Hidden view of the leg and foot represented on the auricle. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

7.2.3 Arm and hand represented on the scaphoid fossa

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
29.0	Thumb <i>Location:</i> Antihelix superior crus, alongside the scaphoid fossa. <i>Function:</i> Relieves pain of sprained thumb.	[AH 16 & AH 18, PP 9]
30.0	Fingers (<i>Digits, Phalanges</i>) <i>Location:</i> Uppermost scaphoid fossa, covered by the superior helix brim. <i>Function:</i> Relieves pain, swelling, peripheral neuralgia, frostbite, and arthritis in fingers.	[SF 6, PP 10]
31.0	Hand (<i>Palm, Carpals, Metacarpals</i>) <i>Location:</i> Upper scaphoid fossa, central to LM 3 and Darwin's tubercle. <i>Function:</i> Relieves pain and swelling in hand.	[SF 5 & AH 14, PP 9]
31.F2	Hand.F2 <i>Location:</i> Floor of the peripheral superior concha, above the concha ridge and near the concha wall.	[SC 8]
31.F3	Hand.F3 <i>Location:</i> Central ear lobe, near the Master Cerebral point.	[LO 1]
32.0	Wrist <i>Location:</i> Scaphoid fossa, central to LM 4 of Darwin's tubercle. <i>Function:</i> Relieves pain, strain, and swelling in the wrist, and reduces symptoms of carpal tunnel syndrome.	[SF 5, PP 7]
32.F2	Wrist.F2 <i>Location:</i> Floor of the peripheral superior concha, below LM 16.	[SC 6]
32.F3	Wrist.F3 <i>Location:</i> Central ear lobe, near the Master sensorial point.	[LO 3]
33.0	Forearm (<i>Ulna and Radius bones, Brachioradialis muscle</i>) <i>Location:</i> In the superior scaphoid fossa, inferior to the Wrist point. <i>Function:</i> Relieves pain and spasms in forearm, tennis elbow.	[SF 4, PP 7]
34.0	Elbow <i>Location:</i> In the scaphoid fossa, directly peripheral to the antihelix inferior crus. <i>Function:</i> Relieves pain, strain, soreness, and swelling in elbow joint, tennis elbow.	[SF 3, PP 5]
34.F2	Elbow.F2 <i>Location:</i> On the floor of the superior concha, below the middle of the inferior crus.	[SC 5]
34.F3	Elbow.F3 <i>Location:</i> Peripheral ear lobe.	[LO 5]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
35.0	Upper Arm (<i>Biceps and Triceps muscles, Humerus bone, Chinese Shoulder</i>) <i>Location:</i> In the scaphoid fossa, superior to the Shoulder point. <i>Function:</i> Relieves pain and spasms in upper arm.	[SF 3, PP 5]
36.0	Shoulder (<i>Pectoral Girdle, Deltoid muscles, Chinese Shoulder joint</i>) <i>Location:</i> In the scaphoid fossa, peripheral to LM 0 and LM 15, where the antihelix region representing the neck meets the antihelix region representing the upper back. <i>Function:</i> Relieves pain, tenderness, swelling and arthritis in the shoulder.	[SF 2, PP 3]
36.F2	Shoulder.F2 <i>Location:</i> Floor of the superior concha near the internal helix and the concha wall.	[SC 4]
36.F3	Shoulder.F3 <i>Location:</i> Inferior regions of the scaphoid fossa and the helix tail.	[SF 1, HX 15]
37.0	Master Shoulder point (<i>Scapula, Trapezius muscle, Chinese Clavicle</i>) <i>Location:</i> In the inferior scaphoid fossa, inferior to Shoulder point, central to LM 5. <i>Function:</i> Relieves pain, tenderness, strain and swelling in shoulder.	[SF 1, PP 1]

Overview of upper limb representation: The scaphoid fossa can be divided into equal thirds. The hand and fingers are represented on the upper third, the forearm, elbow, and upper arm are represented on the middle third, and the shoulder is represented on the lower third of the scaphoid fossa. Unlike the differences between the Chinese and European auricular systems representing the lower limbs, both systems of auriculotherapy concur with regard to the location of the upper limbs.

Physical support of the scaphoid fossa: Because the scaphoid fossa is a groove on the most peripheral part of the external ear, it tends to flap back and forth when the ear is scanned for an active reflex point. It is necessary to provide firm back pressure while probing the skin to detect a point for auricular diagnosis or auriculotherapy treatment. The therapist's own thumb provides back pressure while stretching the ear with the index finger. To detect a point on the posterior surface of the ear, bend the ear over slightly, revealing the back of the ear. Treat the identical posterior region detected on the anterior surface of the auricle in order to relieve the muscle spasms that may accompany the sensory aspects of pain in a limb.

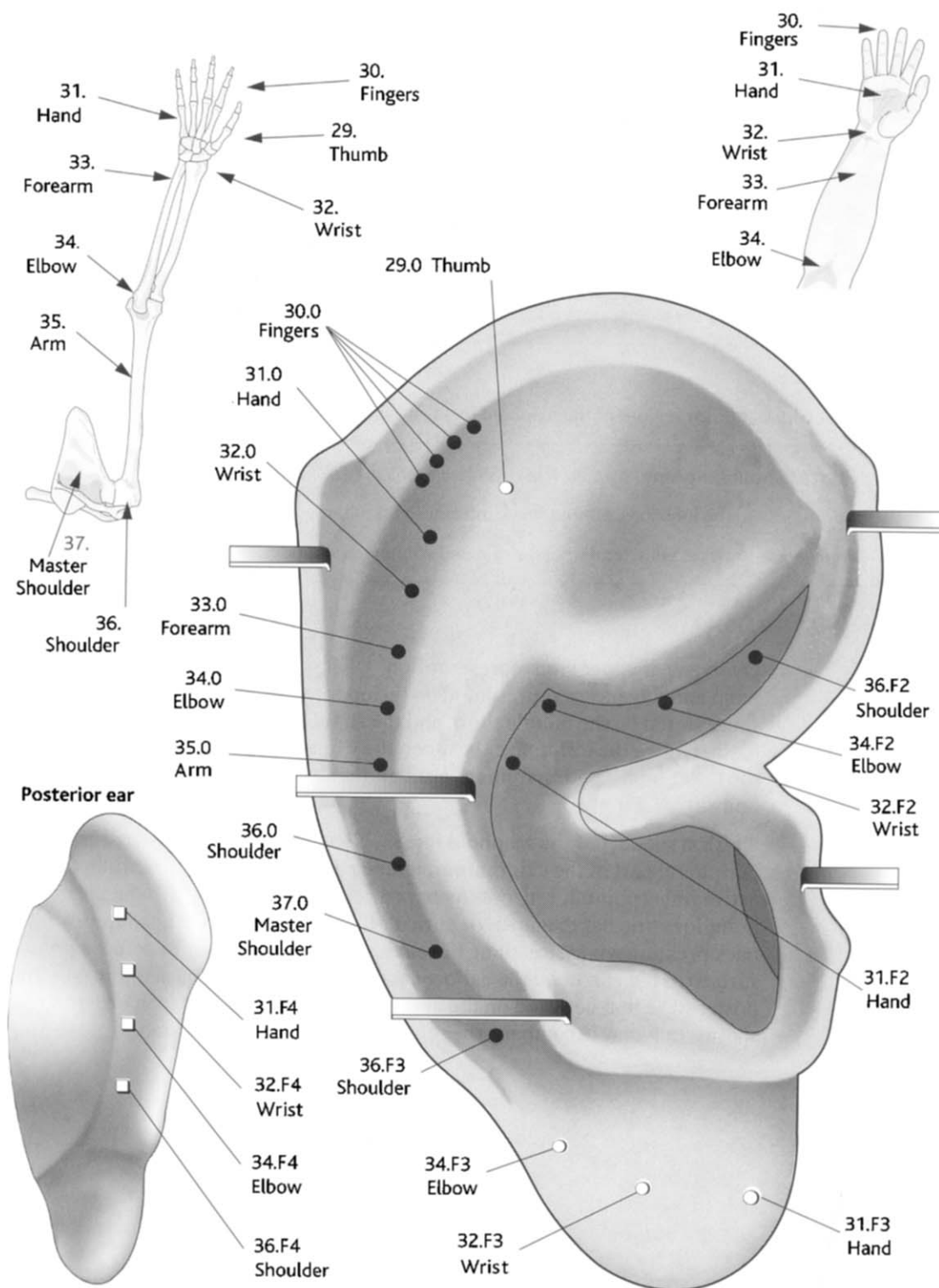


Figure 7.11 Hidden view of the arm and hand represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

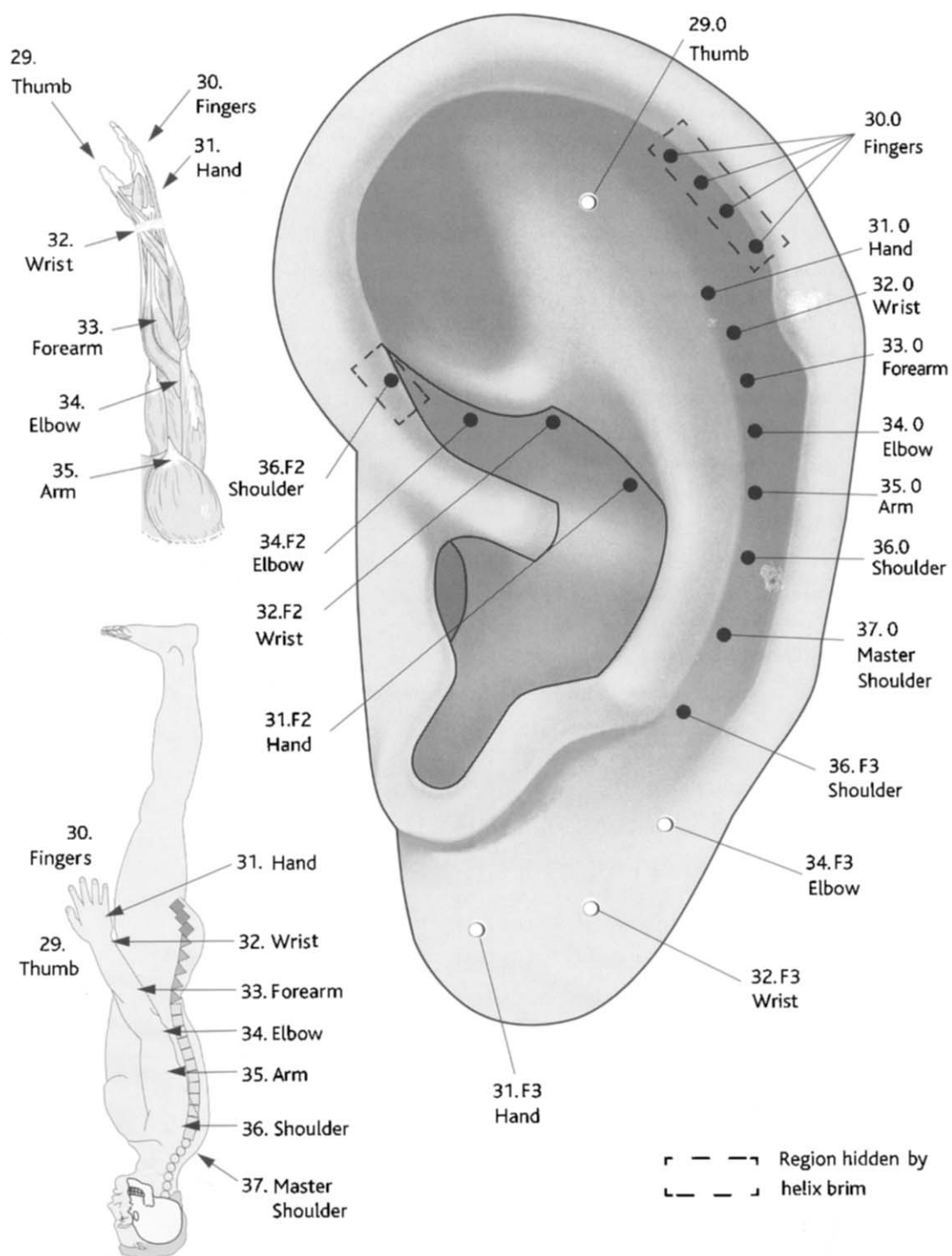


Figure 7.12 Surface view of the arm and hand represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.2.4 Head, skull and face represented on the antitragus and lobe

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
38.0	Occiput (<i>Occipital Skull, Back of Head, Atlas of Head</i>) <i>Location:</i> On the peripheral superior antitragus, near the antitragus–antihelix groove. <i>Function:</i> Relieves occipital headaches, tension headaches, facial spasms, stiff neck, epileptic convulsions, brain seizures, shock, dizziness, sea sickness, car sickness, air sickness, vertigo, impaired vision, insomnia, coughs and asthma. In TCM, the Occiput point is utilized for all nervous disorders, calms the mind, clears heat, dispels wind and nourishes liver qi.	[AT 3, PL 4]
39.0	Temple (<i>Temporoparietal Skull, Tai Yang, Sun point</i>) <i>Location:</i> On the middle of the antitragus, inferior to LM 13, the apex of the antitragus. <i>Function:</i> Relieves migraine headaches, temporal headaches, tinnitus, and disorders related to blood circulation to the head. In TCM, this point affects the body acupoint Tai Yang and dispels wind.	[AT 2, PG 1]
40.0	Forehead (<i>Frontal Skull</i>) <i>Location:</i> Lower antitragus, near LM 12 and the intertragic notch. <i>Function:</i> Relieves frontal headaches, sinusitis, dizziness, impaired vision, insomnia, distractibility, neurasthenia, anxiety, worry, depression, lethargy, disturbing dreams and hypertension.	[AT 1, PL 2]
41.E	Frontal Sinus <i>Location:</i> Central lobe, inferior to the antitragus point for the forehead. <i>Function:</i> Relieves frontal headaches, sinusitis, rhinitis.	[LO 1]
42.C	Vertex (<i>Chinese Top of Head, Apex of Head</i>) <i>Location:</i> Peripheral superior lobe, below the Occiput point. <i>Function:</i> Relieves pain at the top of the head.	[LO 6]
43.E	TMJ (<i>Temporomandibular joint</i>) <i>Location:</i> Peripheral lobe, inferior to the scaphoid fossa, central to LM 6. <i>Function:</i> Relieves jaw tension, toothaches, TMJ, bruxism.	[LO 8, PL 4/PL 6]
44.0	Lower Jaw (<i>Mandible, Masseter muscle, Lower Teeth</i>) <i>Location:</i> Peripheral lobe, inferior to the TMJ point. <i>Function:</i> Relieves lower jaw tension, toothaches, TMJ, bruxism, anxiety, pain from dental procedures. Used for acupuncture analgesia for tooth extraction.	[LO 7, PL 6]
45.0	Upper Jaw (<i>Maxilla, Upper Teeth</i>) <i>Location:</i> Peripheral lobe, inferior to the TMJ point and central to the Lower Jaw point. <i>Function:</i> Relieves upper jaw tension, toothaches, TMJ, bruxism, anxiety, pain from dental procedures. The Jaw points are used for acupuncture analgesia for tooth extraction.	[LO 8, PL 4]
46.C1	Toothache 1 <i>Location:</i> Peripheral lobe. <i>Function:</i> Relieves toothaches, tooth decay.	[LO 8]
46.C2	Toothache 2 <i>Location:</i> Concha wall behind antitragus. <i>Function:</i> Relieves toothaches.	[CW 3]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
46.C3	Toothache 3 <i>Location:</i> Inferior concha, below antitragus. <i>Function:</i> Relieves toothaches.	[IC 5]
47.C1	Dental Analgesia 1 (<i>Tooth Extraction Anesthesia 1, Upper Teeth</i>) <i>Location:</i> Central lobe, inferior to intertragic notch and superior to the Master Cerebral point. <i>Function:</i> Used for pain relief during dental procedures, gum disease, tooth decay.	[LO 2]
47.C2	Dental Analgesia 2 (<i>Tooth Extraction Anesthesia 2, Lower Teeth</i>) <i>Location:</i> Central lobe, inferior to the Dental Analgesia 1 point and near the Master Cerebral point. <i>Function:</i> Used for pain relief during dental procedures, gum disease, tooth decay, and periodontal inflammations.	[LO 1]
48.C1	Palate 1 (<i>Upper Palate</i>) <i>Location:</i> Upper center of lobe, inferior to LM 12 on antitragus. <i>Function:</i> Relieves sores, ulcers, and infections in the gums of lower mouth.	[LO 4]
48.C2	Palate 2 (<i>Lower Palate</i>) <i>Location:</i> Center of the lobe, inferior to LM 13 on apex of antitragus. <i>Function:</i> Relieves sores, ulcers, and infections in the gums and lining of upper mouth.	[LO 4]
49.C	Tongue.C <i>Location:</i> Center of the lobe, between Palate 1 and Palate 2. <i>Function:</i> Relieves pain and bleeding of tongue.	[LO 4]
49.E	Tongue.E <i>Location:</i> Peripheral lobe, inferior to ear reflex points for Jaw. <i>Function:</i> Relieves pain and bleeding of tongue.	[LO 5, PL 5, PL 6]
50.E	Lips <i>Location:</i> Peripheral lobe, between LM 6 and LM 7. <i>Function:</i> Relieves chapped lips, cold sores on lips.	[LO 3, PL 5]
51.E	Chin <i>Location:</i> Peripheral lobe, near LM 6. <i>Function:</i> Relieves skin sores and scrapes on chin.	[LO 8]
52.C	Face (<i>Cheek</i>) <i>Location:</i> Peripheral lobe. <i>Function:</i> Relieves facial spasms, tics, paresthesia, trigeminal neuralgia, acne, facial paralysis.	[LO 3, PL 5]

Overview of head and face representation on the ear: The face muscles are represented on the lobe, separate from the antitragus points for the skull. The angled antitragus can be divided into equal thirds, with the occiput represented on the upper, outer third of the antitragus, the temples represented on the middle third of the antitragus, and the forehead represented on the lower, medial third of the antitragus. As with the representation of the upper limbs, both the Chinese and European systems of auriculotherapy concur with regard to the location of the head.

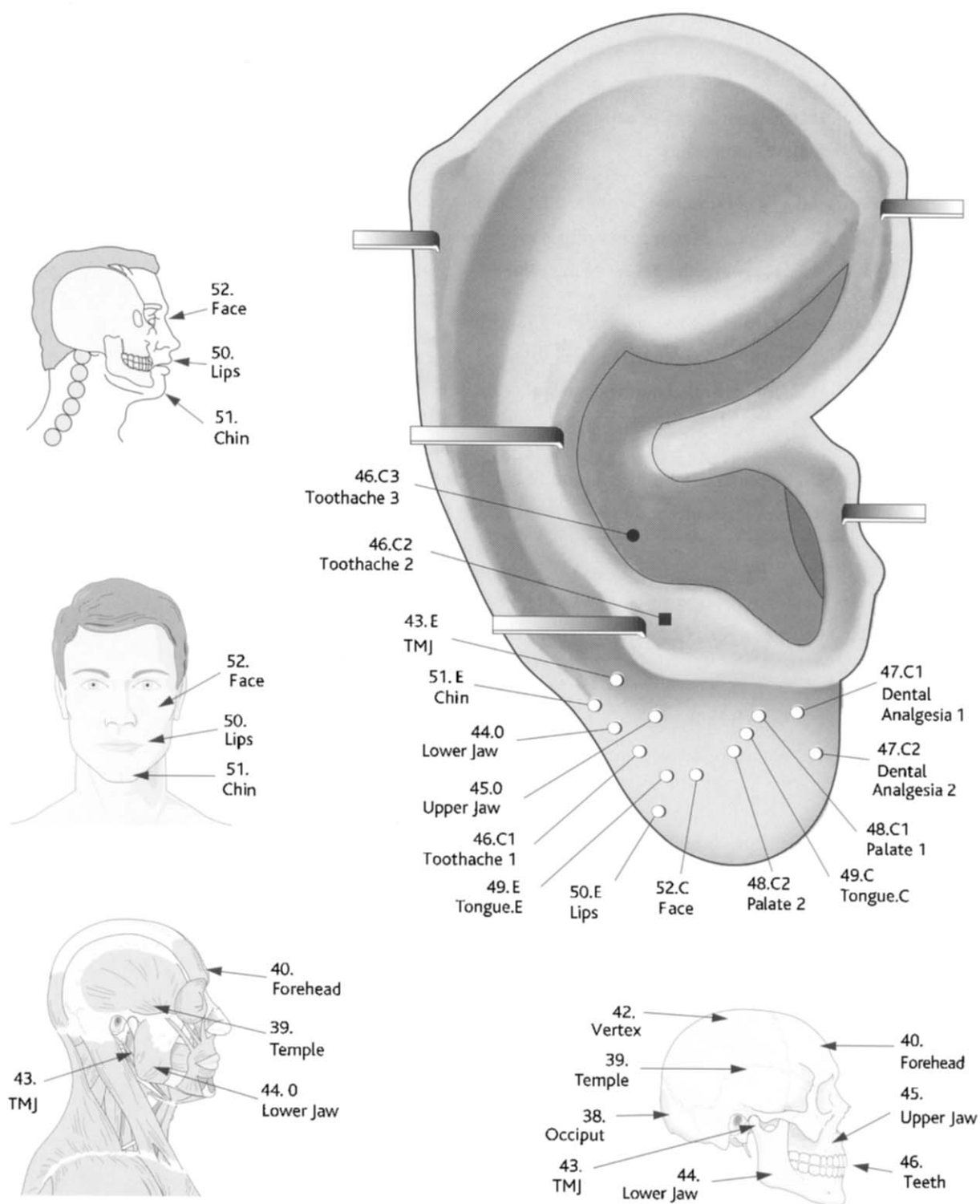


Figure 7.13 Hidden view of the head and face represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

Physical support of the antitragus: Because the antitragus is a ridge on the peripheral aspect of the external ear, it tends to flap back and forth when scanning the ear for an ear reflex point. It is necessary to provide firm back pressure when detecting a head point for auricular diagnosis or auriculotherapy treatment. The practitioner's own thumb provides back pressure while stretching the ear with the index finger. When detecting a point on the posterior surface of the ear, bend the ear over slightly, revealing the back of the ear. Treat the identical posterior region detected on the anterior surface of the auricle in order to relieve the muscle spasms that may accompany the sensory aspects of headaches.

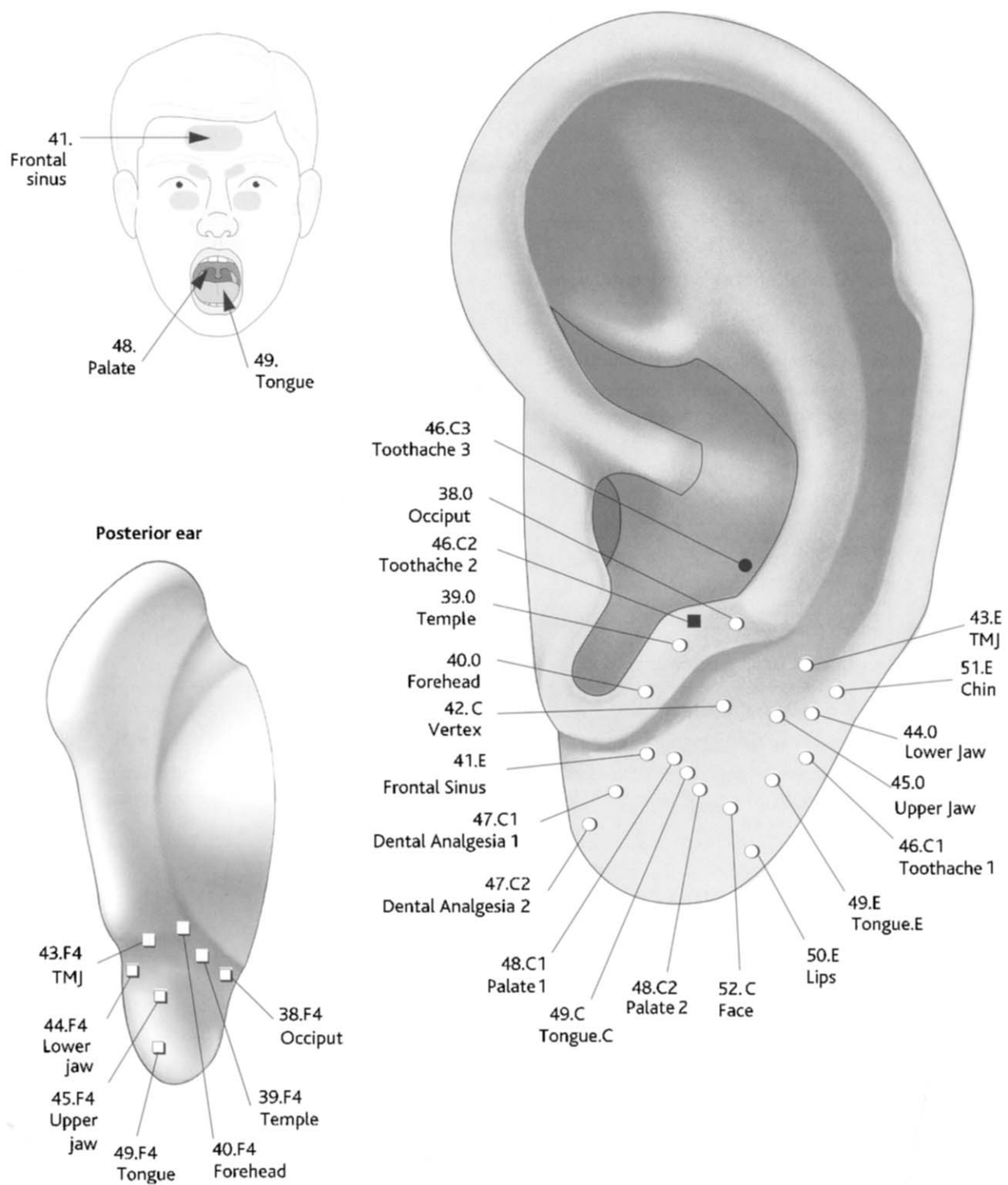


Figure 7.14 Surface view of the head and face represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.2.5 Sensory organs represented on the lobe, tragus and subtragus

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
53.C	Skin Disorder.C (<i>Urticaria</i>) <i>Location:</i> Superior scaphoid fossa, central to LM 3 and located near the Hand point. <i>Function:</i> Relieves dermatitis, urticaria, eczema, hives, poison oak.	[SF 5]
53.F1	Skin Disorder.F1 <i>Location:</i> All along helix tail.	[HX 12–HX 15]
53.F2	Skin Disorder.F2 <i>Location:</i> Superior concha.	[SC 5]
53.F3	Skin Disorder.F3 <i>Location:</i> Central lobe below the intertragic notch.	[LO 2]
54.0	Eye (<i>Retina, Master Sensorial point</i>) <i>Location:</i> Center of lobe, at the same location as Master Sensorial point. <i>Function:</i> Relieves poor eyesight, blurred vision, eye irritation, glaucoma, sty and conjunctivitis.	[LO 4]
55.C1	Eye Disorder 1 (Mu 1) <i>Location:</i> Central side of intertragic notch. <i>Function:</i> Relieves blurred vision, eye irritation, glaucoma, retinitis, myopia, astigmatism.	[IT 1]
55.C2	Eye Disorder 2 (Mu 2) <i>Location:</i> Peripheral side of intertragic notch.	[AT 1]
55.C3	Eye Disorder 3 (<i>New Eye point</i>) <i>Location:</i> Inferior concha, below helix root.	[IC 6]
56.C	Inner Nose (<i>Internal Nose, Nasal Cavity</i>) <i>Location:</i> Middle of subtragus, underneath inferior tragus protrusion, LM 10. <i>Function:</i> Relieves running nose, chronic sneezing, common colds, flu, sinusitis, rhinitis, nasal bleeding, profuse nasal discharge, nasal obstruction, and allergies. It eliminates pathogenic wind-cold and wind-heat in the lungs by removing obstructions in the nose.	[ST 2]
57.C	External Nose.C (<i>Outer Nose</i>) <i>Location:</i> Middle of tragus. <i>Function:</i> Relieves pain from broken nose, sunburned nose, rosacea.	[TG 3]
57.E	External Nose.E <i>Location:</i> Central side of inferior lobe.	[LO 1]
58.C	Inner Ear.C (<i>Internal Ear</i>) <i>Location:</i> Peripheral lobe, inferior to the antihelix tail. <i>Function:</i> Relieves deafness, hearing impairment, tinnitus, dizziness, vertigo, Menière's disease.	[LO 5]
58.E	Inner Ear.E (<i>Internal Ear, Cochlea</i>) <i>Location:</i> Middle of subtragus, near Chinese Inner Nose.	[ST 3]
59.C	External Ear (<i>Outer Ear, Auricle, Pinna</i>) <i>Location:</i> Superior tragus. <i>Function:</i> Relieves pain and infections of external ear, deafness, tinnitus, ear infections.	[TG 5]

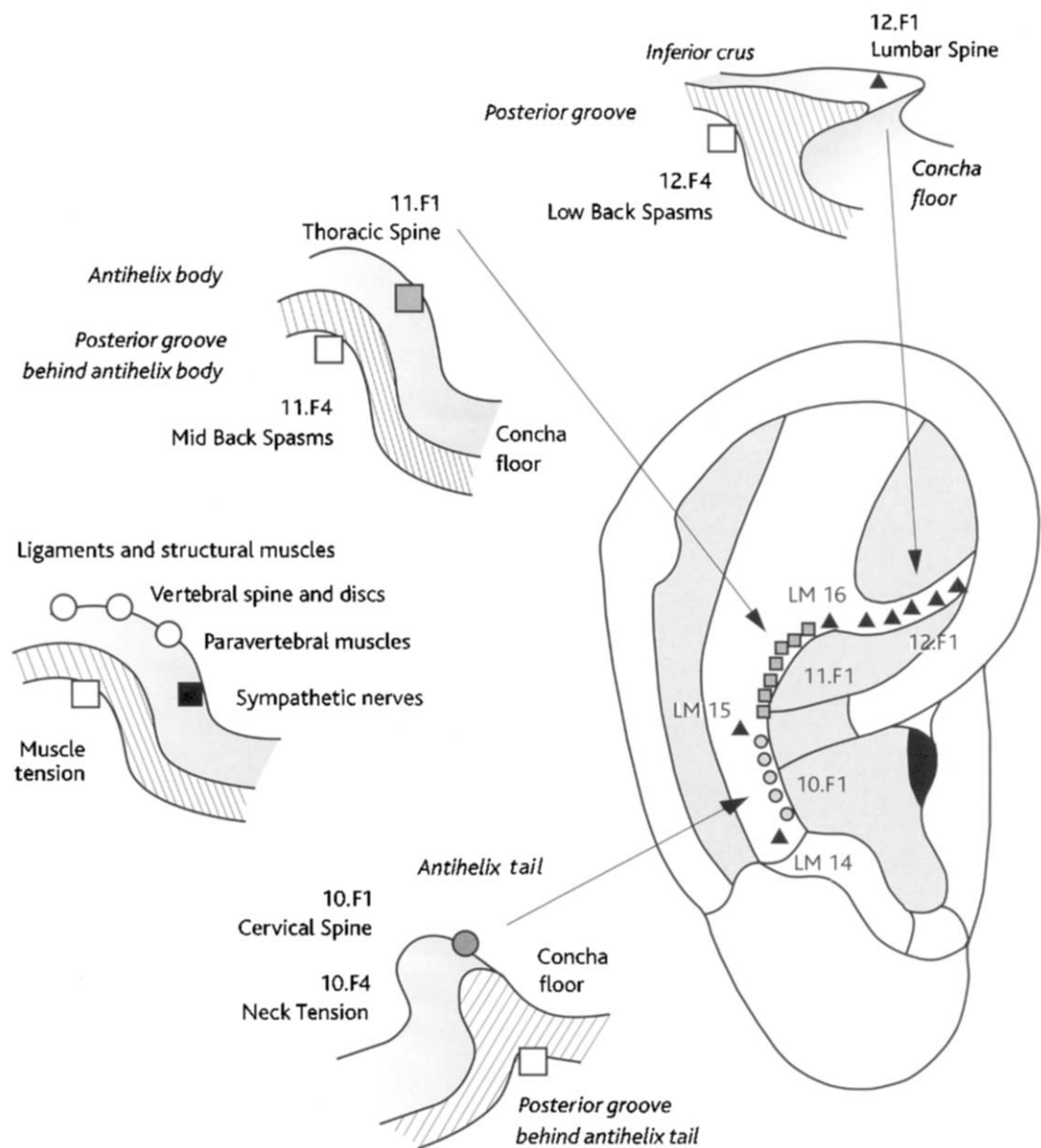


Figure 7.15 Depth view of the musculoskeletal spine represented on the auricle. The shape of different spinal vertebrae of the inverted somatotopic body corresponds to changes in the shape of the contours of the antihelix.

These changes in antihelix contours can be used to distinguish different levels of the vertebral column represented on the auricle. They are also used to distinguish auricular regions where the hip, shoulder and head extend from the spine.

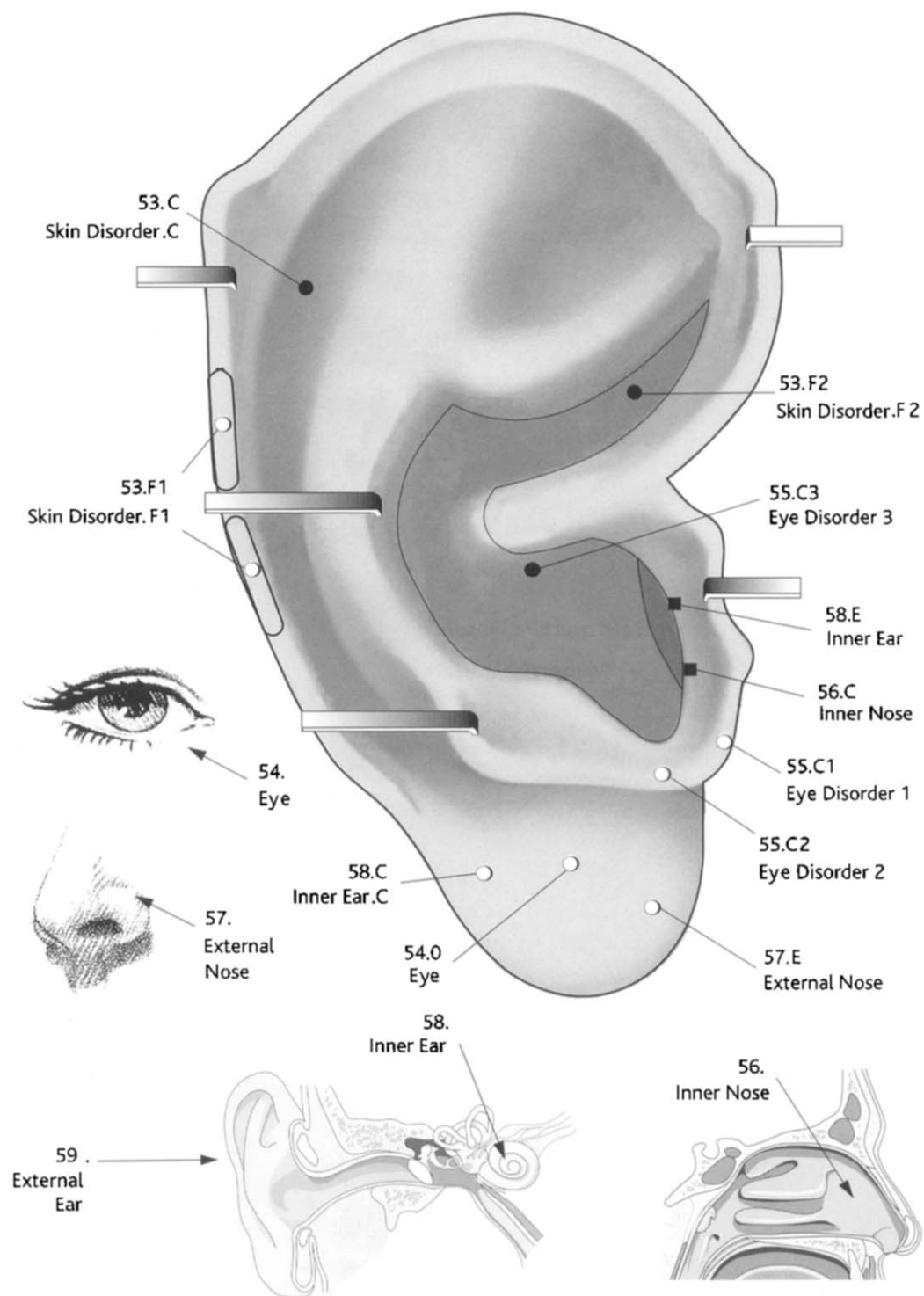


Figure 7.16 Hidden view of the sensory organs represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

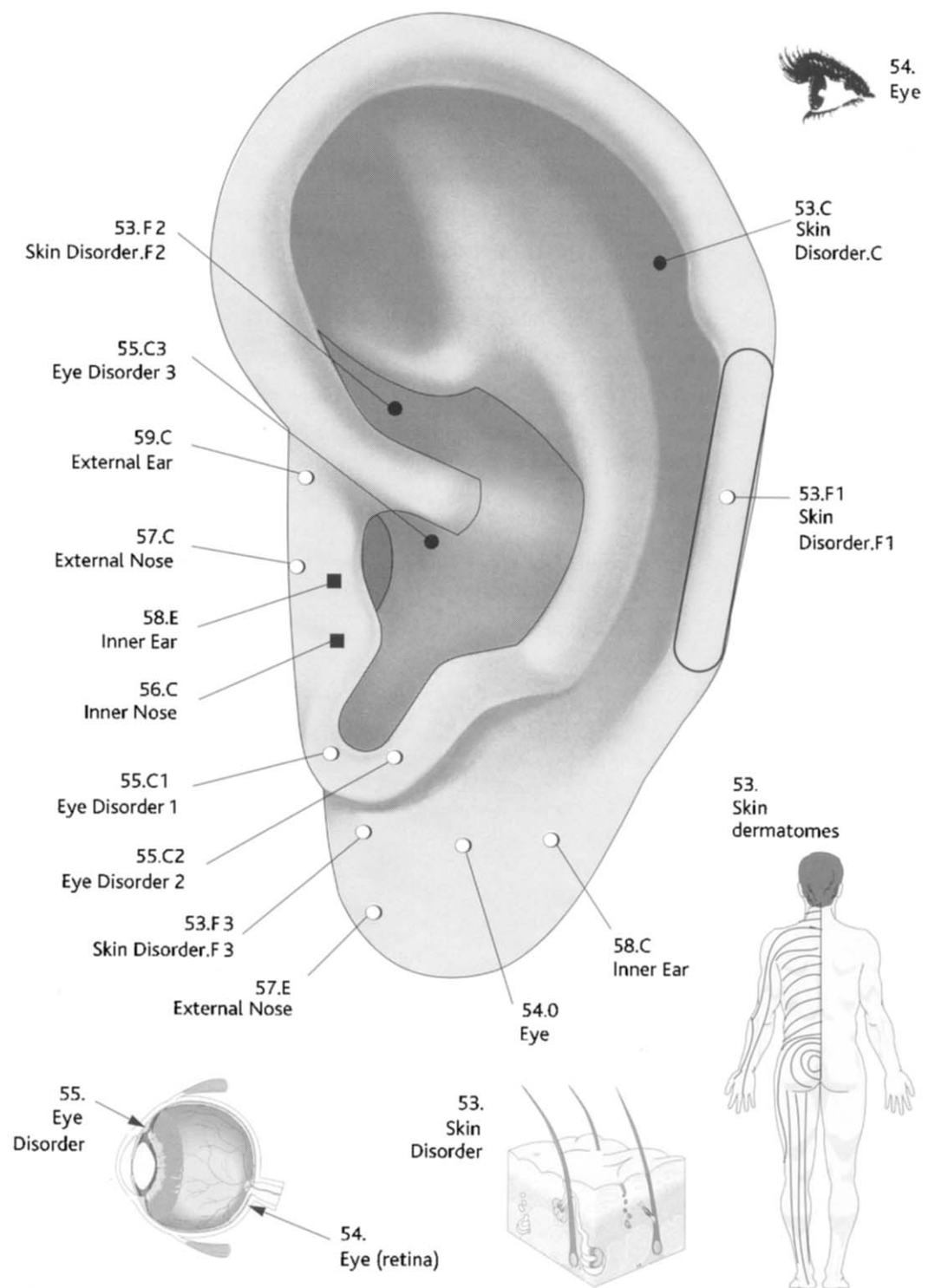


Figure 7.17 Surface view of the sensory organs represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.2.6 Auricular landmarks near musculoskeletal points

LM 1	Helix insertion: The lower Sacral Vertebrae are located on the antihelix inferior crus below this landmark on the helix root.
LM 2	Apex of ear: The Thumb point is located on the antihelix superior crus just below this landmark on the superior helix.
LM 3	Superior Darwin's tubercle: The Hand point in the scaphoid fossa is found centrally within this landmark.
LM 4	Inferior Darwin's tubercle: The Wrist point in the scaphoid fossa is found centrally within this landmark.
LM 5	Helix curve: The Master Shoulder point in the scaphoid fossa is located centrally within this landmark.
LM 6	Lobular–Helix Junction: The Lower Jaw and TMJ are located centrally within LM 6.
LM 7	Bottom of lobe: The Lips are located superior to LM 7.
LM 8	Lobular insertion: The European External Nose is located superior to LM 8.
LM 9	Intertragic notch: The Mu 1 Eye Disease point is located just central to this landmark, whereas the Mu 2 Eye Disease point is located just peripheral to it.
LM 10	Inferior tragus protrusion: The Chinese External Nose is located halfway between LM 10 and LM 11.
LM 11	Superior tragus protrusion: The Chinese External Ear is located just superior to this landmark.
LM 12	Antitragus protrusion: The Forehead on the antitragus is located near this landmark.
LM 13	Apex of antitragus: The Temples on the antitragus are found inferior to this landmark. The Eye 1 point, at the center of the lobe, is even further below LM 13.
LM 14	Base of antihelix: The Upper Cervical Vertebrae are located just superior to this landmark, the Upper Neck muscles just peripheral to it. The Occiput on the antitragus is found inferior and central to LM 14.
LM 15	Antihelix curve: The division of the upper Thoracic Vertebrae from the lower Cervical Vertebrae is located at this landmark. The Shoulder point is located just peripherally in the scaphoid fossa.
LM 16	Antihelix notch: The upper Lumbar Vertebrae are located above this landmark. The Elbow point is located more laterally in the scaphoid fossa.
LM 17	Midpoint of inferior crus: The division of the upper Sacral Vertebrae from the lower Lumbar Vertebrae is located at this landmark.

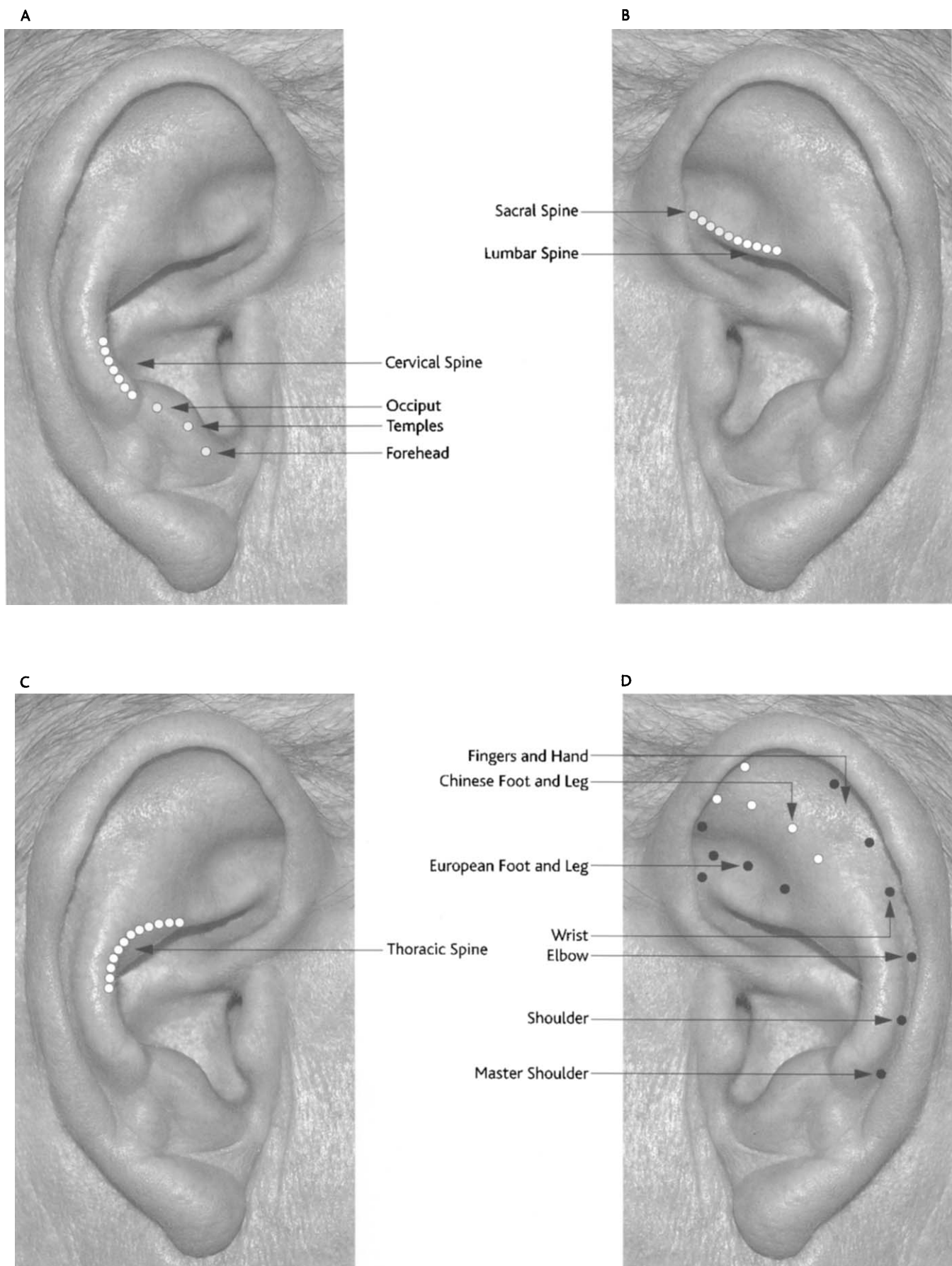


Figure 7.18 Auricular regions corresponding to the head and neck (A), lower spine (B), thoracic spine (C) and upper and lower limbs (D).

7.3 Auricular representation of internal visceral organs

The arrangement of the location of internal organs on the auricle is based upon the same anatomical organization as the organs that are found in the internal body, only they are upside down. The auricular points represent physiological disturbances in these organs, not the actual anatomical organs themselves.

Digestive system: The gastrointestinal system or alimentary canal converts food that has been eaten into smaller fragments, allowing basic nutrients to be absorbed into the body to make energy and to form the basic building blocks for muscles, bones and internal organ tissue.

Mouth: This soft tissue lining of the oral cavity or buccal cavity includes the gums, palate, tongue, and salivary glands, where food is initially tasted as well as broken down.

Esophagus: The gullet is a long tube that delivers food from the mouth to the stomach, joining the stomach at the cardiac orifice, a smooth muscle sphincter that closes off gastric juices from inducing reflux back into the esophagus.

Stomach: This hollow organ is a temporary storage tank for food. Through mechanical churning and gastric acid chemicals, food received from the mouth is further broken down.

Small intestines: This very long tube winds back on itself many times, allowing for the gradual absorption of food nutrients into the body. It begins at the duodenum connected to the stomach and ends at the ileum connected to the large intestines.

Large intestines: This final tube progresses from the ascending colon to the transverse colon to the descending colon, ending in the rectum. The colon withdraws water from indigestible food.

Circulatory system: This hydraulic system begins with the cardiac muscle in the thorax, which sends oxygen-rich blood through the arteries to deliver it to all parts of the body, and receives oxygen-deficient blood from the veins. The lymphatic vessels collect excess fluid, metabolic wastes, and immune system breakdown products.

Heart: This primary cardiac muscle pumps blood to all parts of the body.

Respiratory system: The tubular organs of this system allow exchange of air and carbon dioxide.

Lungs: This organ for exchange of air gases includes bronchial tubes and alveoli sacs.

Throat: This opening to the respiratory system includes the mouth, pharynx, and larynx.

Tonsils: These lymphatic organs in the oral cavity surrounding the throat serve to gather and eliminate microorganisms that enter the throat.

Diaphragm: This smooth muscle membrane below the thorax allows inhalation to occur.

Accessory abdominal organs: Organs in the abdomen that function with other systems.

Liver: This accessory gastrointestinal organ lies next to the stomach. The liver converts blood glucose into glycogen, incorporates amino acids into proteins, releases enzymes to metabolize toxic substances in the blood, and produces bile. The bile is released into the small intestines, where it facilitates digestion of fats.

Gall bladder: This muscular sac stores bile created by the liver.

Pancreas: This accessory endocrine–exocrine gland produces digestive enzymes, the hormone insulin to facilitate energy inside cells, and the hormone glucagon to raise blood sugar levels.

Spleen: This accessory lymphatic organ next to the stomach filters the blood and removes defective blood cells and bacteria. It is a site for producing additional immune cells.

Appendix: This pouch attached to the large intestines contains lymphatic tissue.

Urogenital organs: Abdominal and pelvic organs of the urinary and reproductive systems.

Kidney: This primary urinary organ filters toxic substances from the blood and releases it into the urine. It may retain or release body fluids and mineral salts.

Bladder: The urinary bladder receives urine from the ureter and kidney and holds it for release.

Urethra: The final tube which connects the bladder and gonads to the outside world.

Prostate: The accessory reproductive organ in males which contributes milky substances to the semen.

Uterus: This reproductive organ in females potentially holds the fertilized egg or discharges its vascular lining during the menstrual period.

External genitals: The penis in the male and the clitoris in the female aroused during sexual performance.

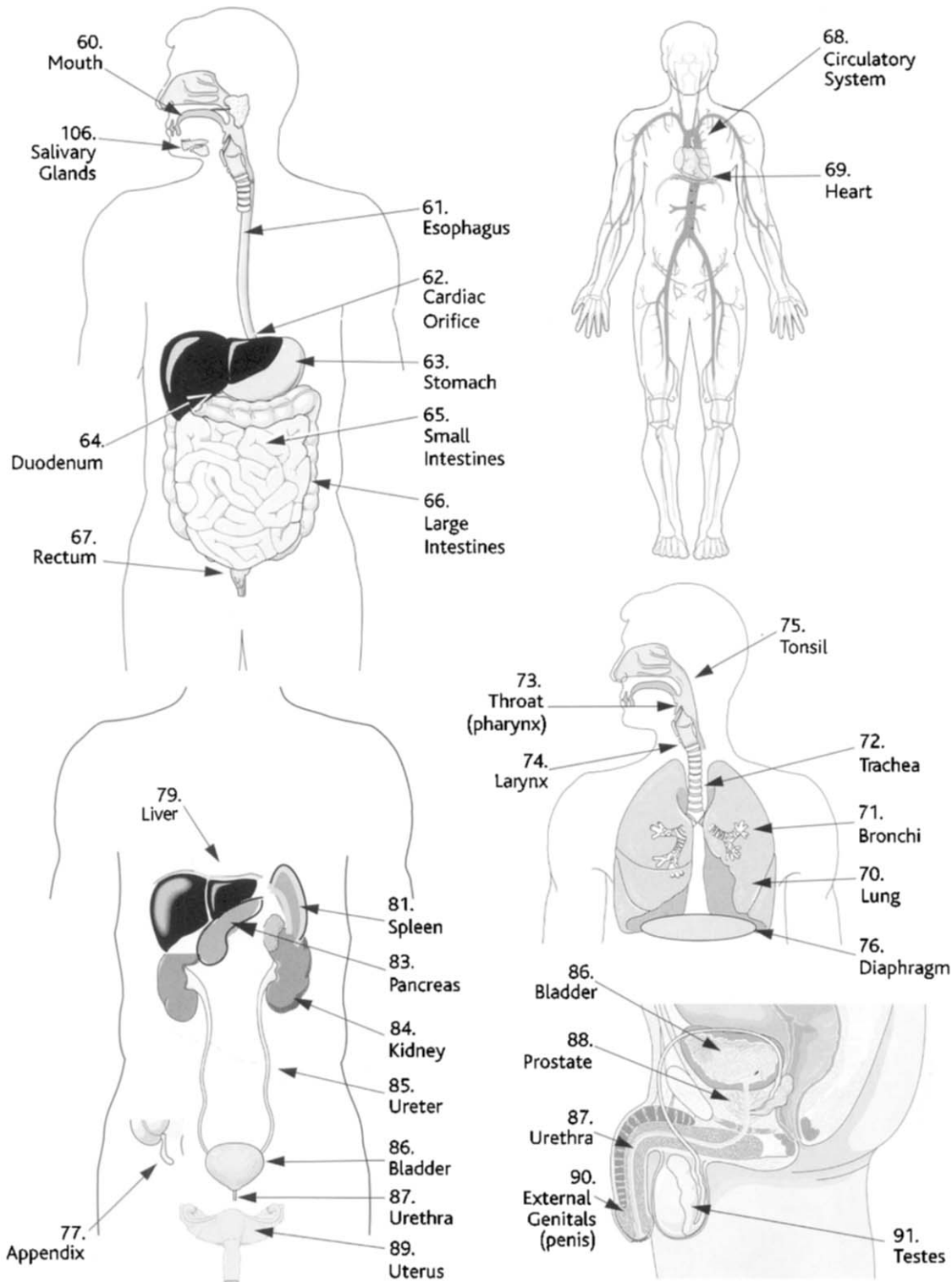


Figure 7.19 Overview of the internal visceral organs. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

7.3.1 Digestive system represented in the concha region around the helix root

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
60.0	Mouth (<i>Fauces, Soft Palate</i>) <i>Location:</i> Inferior concha, next to the ear canal and below the helix root. <i>Function:</i> Representing the soft tissue lining of the inner mouth, gums, and tongue, this ear point relieves eating disorders, mouth ulcers, cold sores, glossitis.	[IC 6]
61.0	Esophagus <i>Location:</i> Inferior concha, peripheral to the Mouth point. <i>Function:</i> Represents the long tube which connects the mouth to the stomach. Relieves indigestion, reflux, difficulty swallowing, epigastric obstructions, hiccups, sore throats. This point is sometimes included with the Stomach point in weight control plans.	[IC 7]
62.0	Cardiac Orifice <i>Location:</i> Inferior concha, below LM 0 and the central concha ridge. <i>Function:</i> Represents the opening between the esophagus and the stomach. Relieves indigestion, reflux, heartburn, hiatal hernias, nausea, vomiting, difficulty swallowing, epigastric obstructions.	[IC 7]
63.0	Stomach <i>Location:</i> Medial concha ridge, just peripheral to LM 0. Control of the smooth muscle activity of the stomach is also affected by stimulating the posterior concha region behind the concha ridge. <i>Function:</i> Represents the gastric chamber which churns masticated food into chyme. Relieves eating disorders, overeating, poor appetite, diarrhea, indigestion, nausea, vomiting, stomach ulcers, gastritis, and stomach cancer. It also alleviates toothaches, headaches, and stress. It is the most commonly used auricular point for appetite control and weight reduction. However, treating this ear point only diminishes the physiological craving for food when following a diet plan and does not override the patient's will if there is not conscientious effort to reduce food intake and increase physical exercise. In TCM, this point reduces stomach fire excess.	[CR 1, PC 2]
63.F2	Stomach.F2 <i>Location:</i> This endodermal Phase II point is found on the peripheral ear lobe of Territory 3.	[LO 4 & LO 5]
63.F3	Stomach.F3 <i>Location:</i> This endodermal Phase III point is found on the medial superior helix region of Territory 1.	[HX 4 & HX 5]
64.0	Duodenum <i>Location:</i> Superior concha, immediately above the concha ridge Stomach point. <i>Function:</i> Represents the opening between the stomach and the small intestines. Relieves duodenal ulcers, duodenal cancers, diarrhea and is sometimes used for eating disorders.	[SC 1, PC 3]
65.0	Small Intestines (<i>Jejunum, Ileum</i>) <i>Location:</i> Medial superior concha, below the internal helix root. <i>Function:</i> Represents the long winding tubes which absorb digested food. Relieves diarrhea, indigestion, abdominal distension.	[SC 2, PC 3]
65.F2	Small Intestines.F2 <i>Location:</i> This endodermal Phase II point is found on the middle regions of the ear lobe in Territory 3.	[LO 4 & LO 6]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
65.F3	Small Intestines.F3 <i>Location:</i> This endodermal Phase III point is found on the superior internal helix in Territory 1.	[IH 6–IH 10]
66.0	Large Intestines (Colon) <i>Location:</i> Central narrow portion of the most medial superior concha. <i>Function:</i> Represents the ascending, descending and transverse colons that regulate the amount of fluid released or absorbed from digested material. Relieves diarrhea, constipation, colitis, hemorrhoids, dysentery, enteritis, loose bowels.	[SC 3 & SC 4, PC 4]
66.F2	Large Intestines.F2 <i>Location:</i> This endodermal Phase II point is found on the medial antitragus aspects of Territory 3.	[AT 1 & AT 2]
66.F3	Large Intestines.F3 <i>Location:</i> This endodermal Phase III point is found on the middle range of the helix tail of Territory 1.	[HX 12 & HX 13]
67.C	Rectum.C (Anus, Lower Segment of Rectum) <i>Location:</i> External surface of the helix root, above the Intestines points. <i>Function:</i> Represents the final portion of the colon. This ear point relieves diarrhea, constipation, rectal sores, hemorrhoids, hernias, colitis, fecal incontinence, dysentery.	[HX 2]
67.E	Rectum.E (Anus, Hemorrhoid point) <i>Location:</i> Innermost aspect of superior concha, where the internal helix and the inferior crus meet at a tip.	[SC 4, PC 4]

Auricular microsystem reflex points and macrosystem yang meridians All yang meridians connect directly to the ear and vice versa. Stimulation of the Stomach, Small Intestines and Large Intestines points on the ear can alleviate stagnation, deficiency, or overactivity of qi energy flowing through the respective meridian channels for Stomach, Small Intestines and Large Intestines.

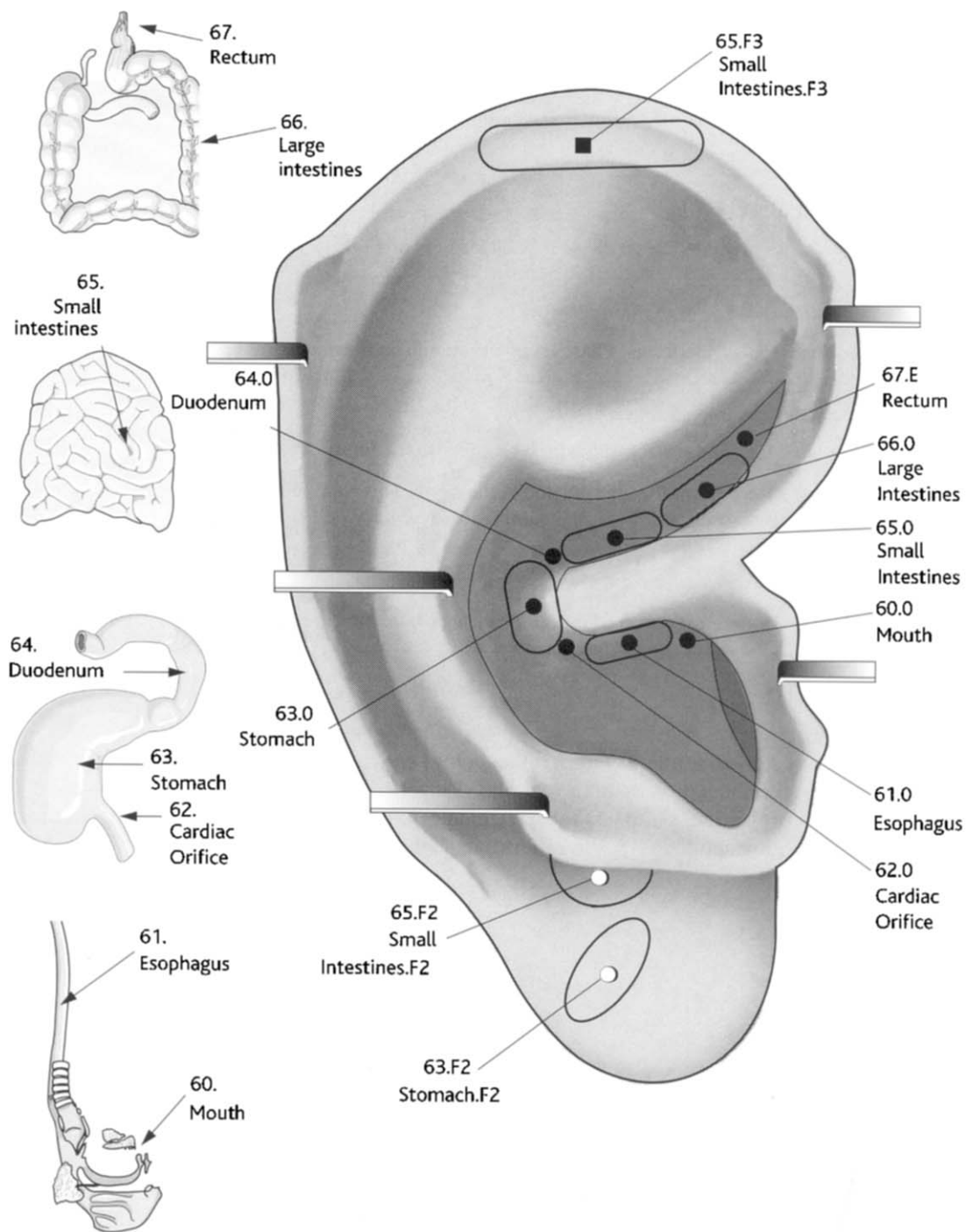


Figure 7.20 Hidden view of the digestive system represented on the concha. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

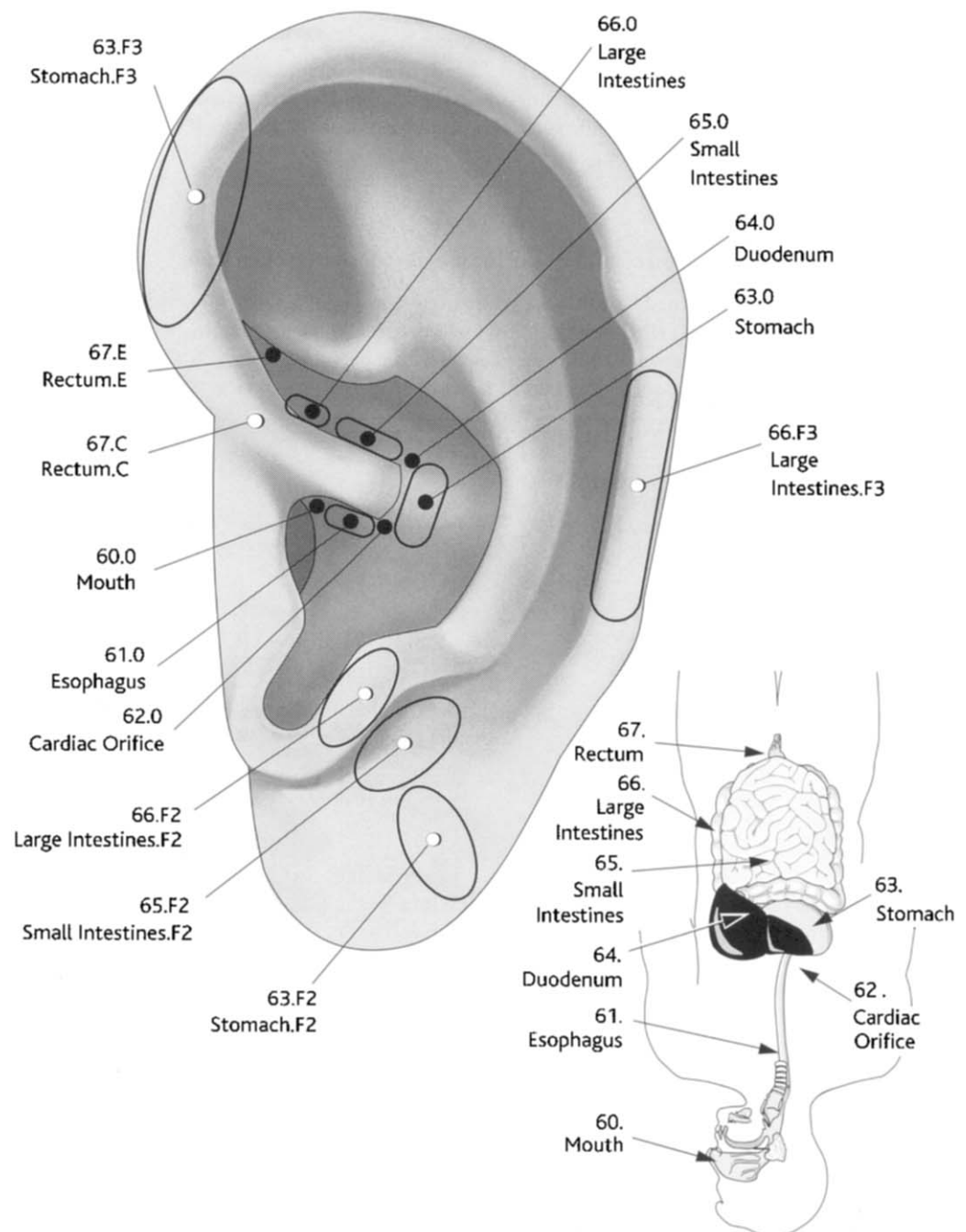


Figure 7.21 Surface view of the digestive system represented on the concha. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

7.3.2 Thoracic organs represented on the inferior concha

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
68.E	Circulatory System (<i>Blood vessels</i>) <i>Location:</i> All along the concha wall below the antihelix and the antitragus ridge. <i>Function:</i> Represents peripheral arteries and veins and the sympathetic nerves that control vasoconstriction and vasodilation. Auricular representation of specific internal arteries and veins are found as follows, all extending from the concha wall: the carotid artery to the brain extends over the helix tail to the lobe; the brachial and radial arteries to the arm and hand extend over the antihelix body to the scaphoid fossa; the femoral artery to the leg and foot extends over the triangular fossa. This set of auricular points relieves coronary disorders, heart attacks, hypertension, circulatory problems, cold hands, cold feet.	[CW 2–CW 9]
69.C1	Heart 1 <i>Location:</i> Deepest, most central area of the inferior concha. (It often looks like a shiny spot on the concha.) <i>Function:</i> Relieves post-heart-attack dysfunctions, chest pain, angina, hypertension, hypotension, palpitations, tachycardia, arrhythmia and poor blood circulation. In TCM, Heart functions to tranquilize the mind and calm the spirit. The auricular Heart point can thus be used to relieve anxiety, insomnia, neurasthenia, poor memory, perspiration, night sweats, regulate blood and reduce heart fire excess.	[IC 4]
69.C2	Heart 2 (<i>Cardiac point</i>) <i>Location:</i> Superior tragus.	[TG 5]
69.C3	Heart 3 <i>Location:</i> Middle region of the posterior concha.	[PC 2]
69.F1	Heart.F1 <i>Location:</i> This mesodermal Phase I point is found on the middle range of the antihelix body of Territory 1. The Phase IV control of cardiac muscle is represented on the posterior groove (PG 4) immediately behind the Phase I Heart point on the antihelix body (AH 4).	[AH 4, PG 4]
69.F2	Heart.F2 <i>Location:</i> This mesodermal Phase II point is found on the peripheral inferior concha of Territory 2, in the same location as the Chinese location for the Heart. While Nogier (1983) reported that the Phase II Heart was in the inferior concha, his subsequent text (1989) relocated the Heart to the peripheral superior concha, in zone SC 7.	[IC 4]
69.F3	Heart.F3 <i>Location:</i> This mesodermal Phase III point is found on the peripheral ear lobe of Territory 3.	[LO 8]
70.C1	Lung 1 (<i>Contralateral Lung</i>) <i>Location:</i> Peripheral region of the inferior concha, below the concha ridge. Nogier located the Lungs throughout the inferior concha. <i>Function:</i> Relieves respiratory disorders, like asthma, bronchitis, pneumonia, emphysema, coughs, flu, tuberculosis, sore throats, edema, chest stuffiness and night sweats. In TCM, the lungs are related to detoxification because they release carbon dioxide with each exhalation. The auricular Lung point can thus facilitate detoxification from any toxic substance, including withdrawal from narcotic drugs, alcohol, and other forms of substance abuse. The Lung point is included in treatment plans for alcohol abuse, heroin addiction, opiate withdrawal, smoking withdrawal, cocaine and amphetamine addiction. Oriental medicine also associates the lungs with the skin, since we breathe through our skin as well as our lungs. Treating the Lung point can therefore alleviate both skin disorders and hair disorders, including dermatitis, urticaria, psoriasis, herpes zoster, shingles. The Lung point is an essential analgesic point used for auricular acupuncture analgesia. Finally, this point is used to disperse lung qi and dispel wind.	[IC 7]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
70.C2	Lung 2 (<i>Ipsilateral Lung</i>) <i>Location:</i> Lower region of the inferior concha, inferior to the Chinese Heart point. Nogier states that the whole inferior concha represents the Lungs. <i>Function:</i> Like the Chinese Lung 1 point, this second ear point for the lungs relieves problems related to respiratory disorders, addiction disorders and skin disorders. Although some texts state that the Chinese Lung 1 point is more often used for respiratory disorders and the Chinese Lung 2 point is more often used for addiction disorders, both Lung points seem to be equally effective for either type of health problem. The more critical variable is which Lung point is more electrically reactive.	[IC 2 & IC 4]
70.C3	Lung 3 <i>Location:</i> Superior portion of the posterior periphery.	[PP 9]
70.F1	Lung.F1 <i>Location:</i> This endodermal Phase I point is found throughout the inferior concha of Territory 2.	[IC 4 & IC 7]
70.F2	Lung.F2 <i>Location:</i> This endodermal Phase II point is found on the peripheral regions of the ear lobe in Territory 3.	[LO 7 & HX 15]
70.F3	Lung.F3 <i>Location:</i> This endodermal Phase III point is found on the middle range of the scaphoid fossa in Territory 1.	[SF 2 & SF 3]
71.C	Bronchi <i>Location:</i> Upper region of the inferior concha, near the Esophagus point. <i>Function:</i> This ear point is considered a third Chinese Lung point. It is used to relieve bronchitis, bronchial asthma, pneumonia, and coughs and helps dispel excess phlegm.	[IC 3]
72.0	Trachea (<i>Windpipe</i>) <i>Location:</i> Central region of the inferior concha, near the ear canal. <i>Function:</i> Relieves sore throats, hoarse voice, laryngitis, common cold, coughs with profuse sputum. It also dispels phlegm.	[IC 3]
73.C	Throat.C (<i>Pharynx, Throat Lining</i>) <i>Location:</i> Subtragus, underneath superior tragus protrusion, LM 11, above ear canal. <i>Function:</i> Relieves sore throats, hoarse voice, pharyngitis, tonsillitis, asthma, bronchitis.	[ST 4]
73.E	Throat.E (<i>Pharynx, Throat Lining, Epiglottis</i>) <i>Location:</i> Central inferior concha, next to the ear canal.	[IC 6]
74.C	Larynx.C <i>Location:</i> Underside of subtragus, immediately above the ear canal. <i>Function:</i> Relieves laryngitis, sore throats.	[ST 4]
74.E	Larynx.E <i>Location:</i> This endodermal Phase I point is found on the inferior concha near the ear canal in Territory 2.	[IC 3]
74.F2	Larynx.F2 <i>Location:</i> This endodermal Phase II point is found on upper, peripheral ear lobe of Territory 3.	[LO 6]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
74.F3	Larynx.F3 <i>Location:</i> This endodermal Phase III point is found on the middle of the antihelix body of Territory 1.	[AH 4]
75.C1	Tonsil 1 <i>Location:</i> On top of superior helix, peripheral to LM 2. <i>Function:</i> Relieves tonsillitis, sore throats, laryngitis, pharyngitis and acute inflammations. The whole peripheral helix rim is used in Chinese auricular treatment plans for alleviating inflammatory conditions.	[HX 9]
75.C2	Tonsil 2 <i>Location:</i> Middle of helix tail, peripheral to LM 15.	[HX 14]
75.C3	Tonsil 3 <i>Location:</i> Curve of helix tail, where it joins the lobe.	[HX 15]
75.C4	Tonsil 4 <i>Location:</i> Bottom of the lobe, near LM 7.	[LO 3]
76.C	Diaphragm.C (Hiccups point) <i>Location:</i> Helix root, above LM 0. <i>Function:</i> Relieves hiccups, diaphragmatic spasms, visceral bleeding, skin disorders.	[HX 2]
76.E	Diaphragm.E <i>Location:</i> Peripheral inferior concha and the concha ridge.	[IC 8 & CR 2]

A



Large Intestines
Small Intestines
Stomach
Mouth

B



Heart.E
Diaphragm.C
Lung 1
Bronchi
Heart.C
Lung 2

C



Pancreas
Appendix
Gall Bladder
Liver

D



Kidney.E
Uterus.C
External Genitals.C
Uterus.E
Bladder
Kidney.C
External Genitals.E
Spleen.E
Spleen.C

Figure 7.22 Auricular regions corresponding to digestive system (A), thoracic organs (B), abdominal organs (C) and urogenital organs(D)

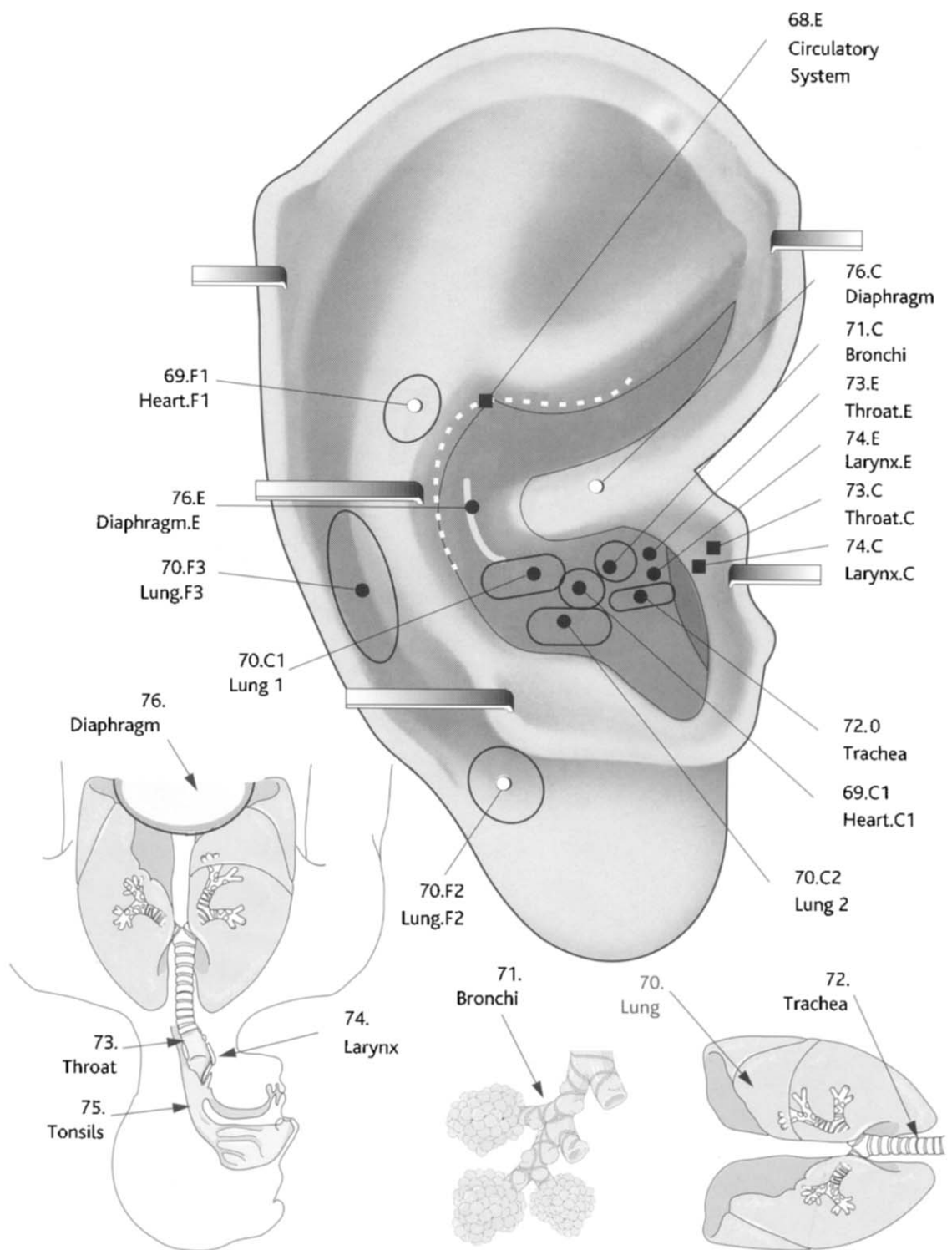


Figure 7.23 Hidden view of the thoracic organs represented on the concha. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

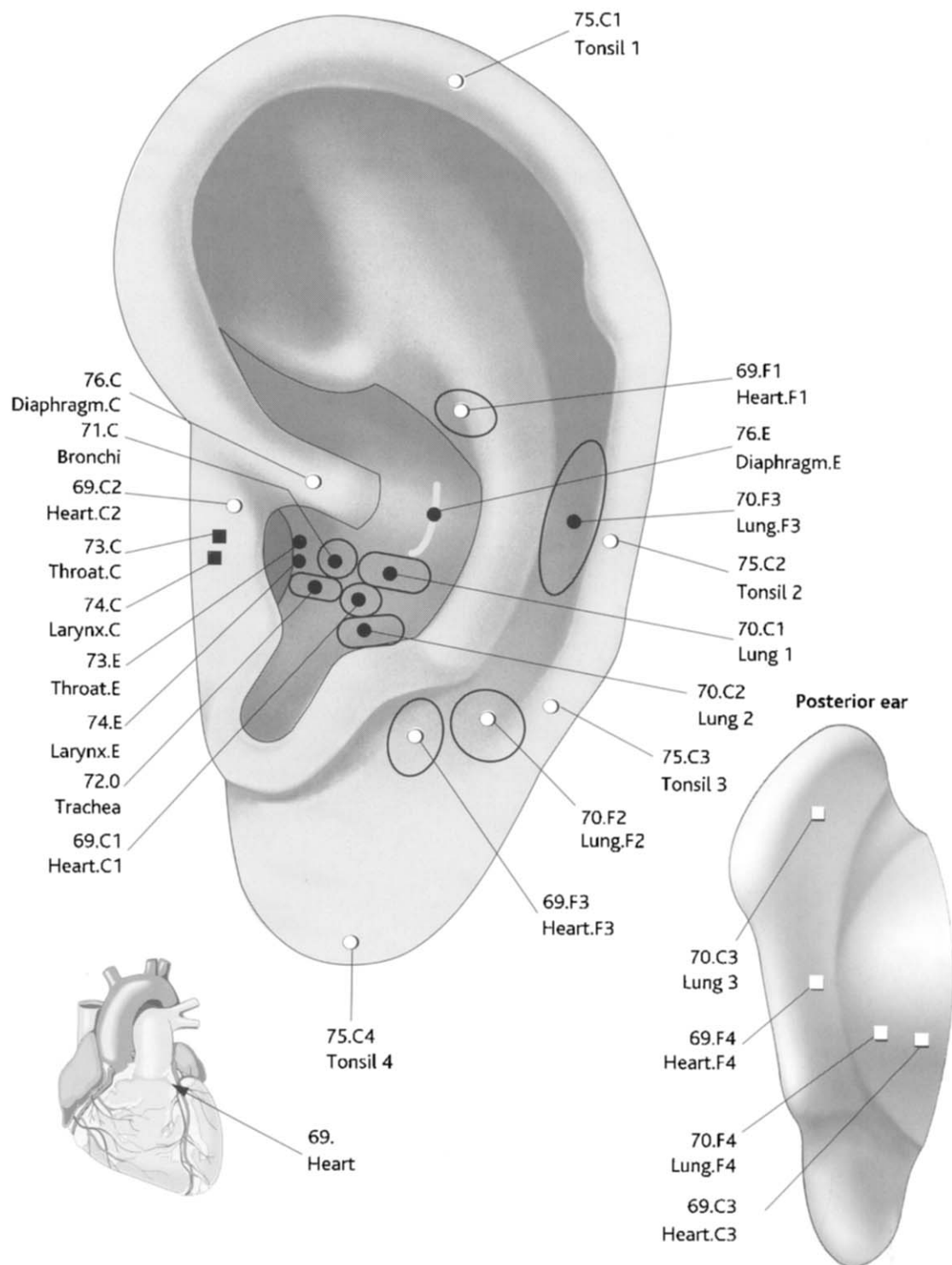


Figure 7.24 Surface view of the thoracic organs represented on the concha. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.3.3 Abdominal organs represented on the superior concha and helix

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
77.0	Appendix (<i>Primary Appendix point</i>) <i>Location:</i> Superior helix, between the Small Intestines and the Large Intestines ear points. <i>Function:</i> Relieves acute and chronic appendicitis.	[SC 2]
78.C1	Appendix Disease 1 <i>Location:</i> Superior scaphoid fossa, near ear points for Fingers.	[SF 6]
78.C2	Appendix Disease 2 <i>Location:</i> Middle scaphoid fossa, near ear points for Shoulder.	[SF 3]
78.C3	Appendix Disease 3 <i>Location:</i> Inferior scaphoid fossa, near Master Shoulder point.	[SF 1]
79.0	Liver <i>Location:</i> Peripheral concha ridge and concha wall, peripheral to the Stomach point. <i>Function:</i> Relieves hepatitis, cirrhosis of liver, jaundice, alcoholism, gall bladder problems, regulates blood disorders, hypertension and anemia. In TCM, the liver affects tendons, sinews, and ligaments, and the Liver ear point is used to heal joint sprains, muscles strains, muscle spasms, myasthenia paralysis and soft tissue injuries. The Liver point also improves blood circulation, enriches blood, improves eyesight, relieves fainting, digestive disorders, convulsions and paralysis due to a stroke. The auricular Liver point is used for hypochondriac pain, dizziness, premenstrual syndrome and hypertension. According to Oriental thought, the liver nourishes yin and restrains yang by purging liver fire.	[CR 2]
79.C2	Liver.C2 <i>Location:</i> A second Chinese Liver point is found on the middle range of the posterior periphery.	[PP 6]
79.F2	Liver.F2 <i>Location:</i> This endodermal Phase II point is found on the peripheral lobe of Territory 3.	[LO 7]
79.F3	Liver.F3 <i>Location:</i> This endodermal Phase III point is found on the superior scaphoid fossa of Territory 1.	[SF 4 & SF 5]
80.C1	Liver Yang 1 <i>Location:</i> Superior helix, at LM 3, superior to Darwin's tubercle. <i>Function:</i> Relieves liver disorders, hepatitis, and alleviates inflammatory conditions. In TCM, the Liver Yang points calm the liver and suppress yang excess and hyperactivity.	[HX 10]
80.C2	Liver Yang 2 <i>Location:</i> Helix tail, at LM 4, inferior to Darwin's tubercle.	[HX 12]
81.C1	Spleen.C1 (<i>Found on left ear only</i>) <i>Location:</i> Peripheral inferior concha, inferior to the Liver point on the concha ridge. <i>Function:</i> Relieves lymphatic disorders, blood disorders, and anemia, abdominal distension and menstruation. In TCM, the spleen nourishes muscles, thus the Spleen point is used to relieve muscle tension, muscle spasms, muscular atrophy, muscular dystrophy. In Chinese thought, the spleen governs the transportation and transformation of food and fluid, thus it affects digestive disorders, indigestion, gastritis, stomach ulcers and diarrhea. The Chinese stimulate this point to strengthen both spleen qi and stomach qi and to regulate the middle jiao.	[IC 8]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
81.C2	Spleen.C2 <i>Location:</i> Posterior concha, peripheral to the posterior ear point for the Lung.	[PC 3]
81.F1	Spleen.F1 (<i>Found on left ear only</i>) <i>Location:</i> Superior concha and concha wall below the inferior crus. Because the spleen is of mesodermal origin, early Nogier charts indicated that the spleen was in one of two positions on the ear, this one for Phase I and the next region for Phase II. <i>Function:</i> Western medicine focuses on the role of the spleen in the lymphatic and immune systems, thus European doctors use the Spleen point for its physiological function rather than its energetic effects as used in Oriental medicine.	[SC 6, CW 9]
81.F2	Spleen.F2 <i>Location:</i> Peripheral superior concha, superior to the Liver point on the concha ridge. Even though the spleen is of mesodermal origin, the earlier localization of the spleen organ by Nogier was placed at this Phase II position. The development of the phase model helped Nogier to account for the discrepancies in the identification of different corresponding regions of the external ear that were said to represent the spleen.	[SC 8]
81.F3	Spleen.F3 <i>Location:</i> This mesodermal Phase III point for the spleen is found on the peripheral lobe of Territory 3.	[LO 8]
82.0	Gall Bladder (<i>Found on right ear only</i>) <i>Location:</i> Peripheral superior concha, between the Pancreas and Duodenum points. The Chinese localization of the Gall Bladder and the Nogier Phase I representation of this organ are the same. <i>Function:</i> Relieves gall stones, gall bladder inflammations, deafness, tinnitus, migraines.	[SC 8, PC 3]
82.F2	Gall Bladder.F2 <i>Location:</i> This endodermal Phase II point is found on the medial lobe of Territory 3.	[LO 2]
82.F3	Gall Bladder.F3 <i>Location:</i> This endodermal Phase III point is found on the base of the antihelix superior crus of Territory 1.	[AH 13 & AH 14]
83.0	Pancreas <i>Location:</i> Peripheral superior concha and the adjacent concha wall. The Chinese localization of the Pancreas is the same as the Nogier Phase I representation of this organ. <i>Function:</i> Relieves diabetes mellitus, hypoglycemia, pancreatitis, dyspepsia.	[SC 7 & CW 7, PC 4]
83.F2	Pancreas.F2 <i>Location:</i> This endodermal Phase II point is found on the medial lobe of Territory 3.	[LO 1]
83.F3	Pancreas.F3 <i>Location:</i> This endodermal Phase III point is found on the triangular fossa region near the antihelix inferior crus of Territory 1.	[TF 4]

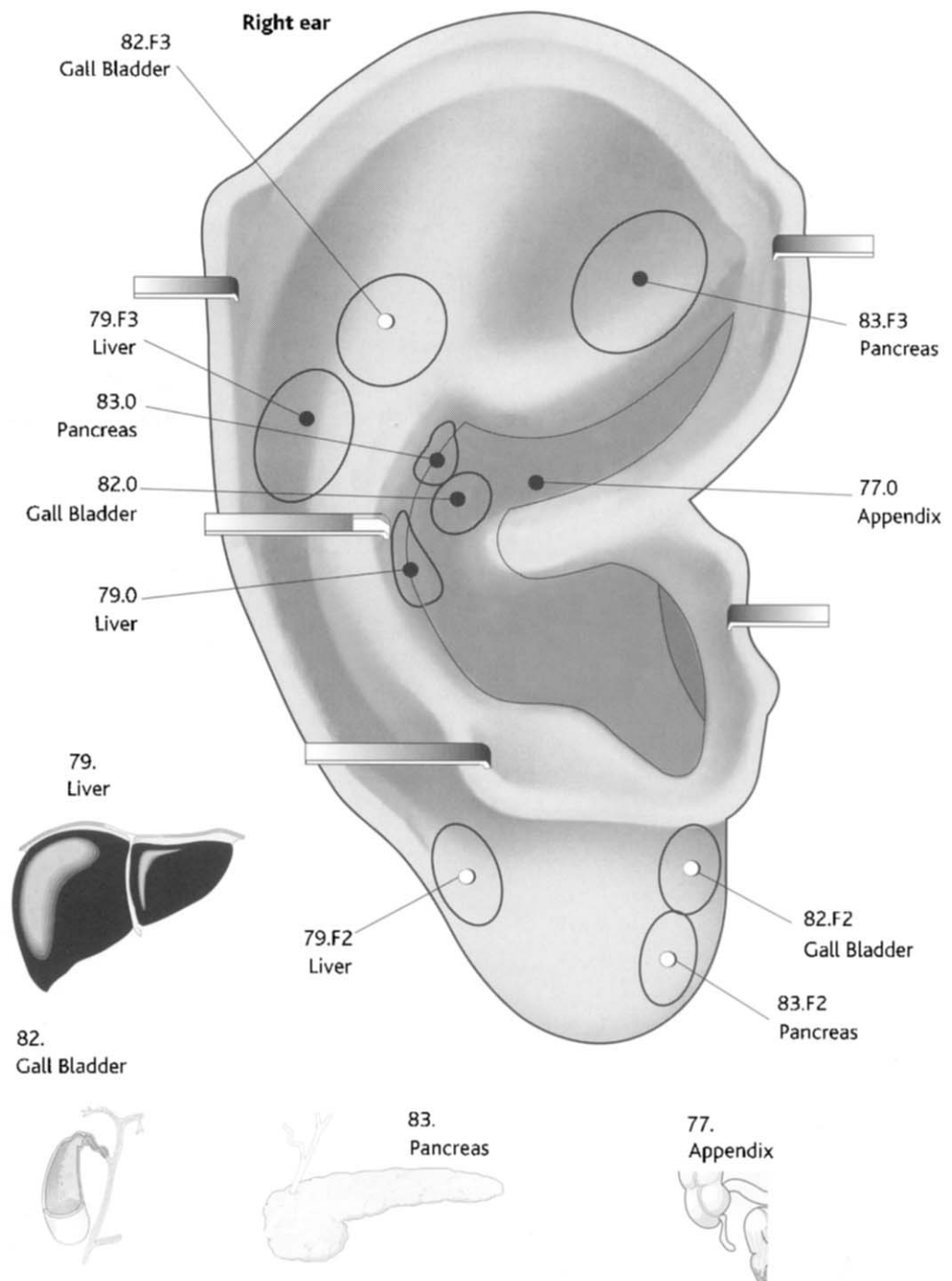


Figure 7.25 Hidden view of the abdominal organs represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

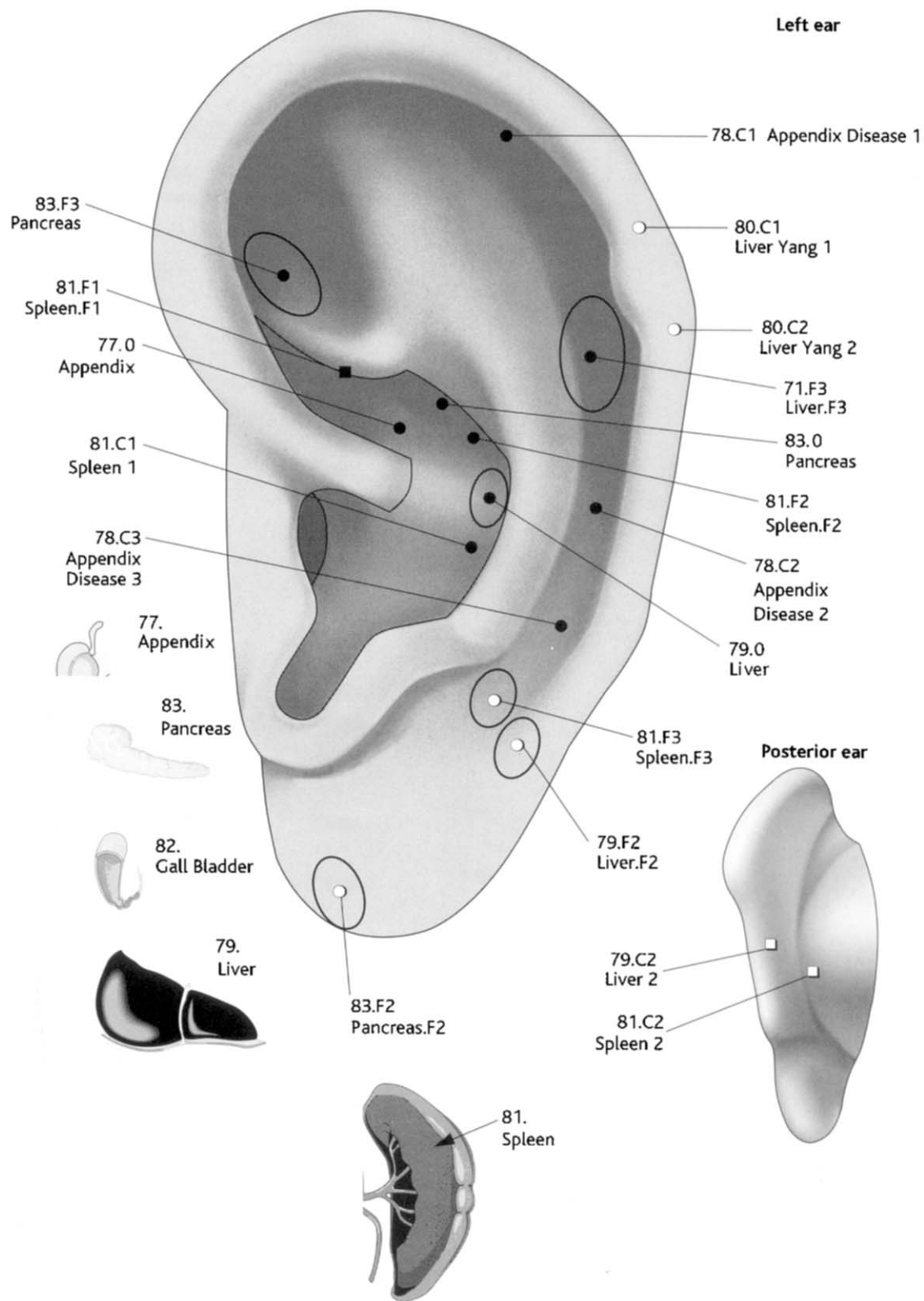


Figure 7.26 Surface view of the abdominal organs represented on the auricle. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

7.3.4 Urogenital organs represented on the superior concha and internal helix

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
84.C1	Kidney 1 <i>Location:</i> Superior concha, below LM 16 and superior to the Stomach point. It is often difficult to view this point because it is hidden by the overhanging ledge of the inferior crus. <i>Function:</i> Relieves kidney disorders, kidney stones, urination problems, nephritis, diarrhea and pyelitis. In TCM, the kidney relates to the bones, auditory function and hair conditions, so it is used for bone fractures, tooth problems, low back pain, ear disorders, deafness, tinnitus, bleeding gums, hair loss and stress. The Chinese Kidney point tonifies kidney qi deficiency, regulates fluid passage, and enriches essence.	[SC 6 & CW 8]
84.C2	Kidney 2 <i>Location:</i> Superior region of the posterior lobe.	[PL 4]
84.F1	Kidney.F1 <i>Location:</i> This mesodermal Phase I point is found on the medial internal helix of Territory 1.	[IH 4 & IH 5]
84.F2	Kidney.F2 <i>Location:</i> This mesodermal Phase II point is found on the inferior concha region of Territory 2.	[IC 7 & IC 8]
84.F3	Kidney.F3 <i>Location:</i> This mesodermal Phase III point is found on the antihelix tail region of Territory 3.	[LO 1 & SF 1]
85.C	Ureter.C <i>Location:</i> Superior concha, between the Kidney and Bladder points. <i>Function:</i> Relieves bladder dysfunctions, urinary tract infections, kidney stones.	[SC 6]
85.E	Ureter.E <i>Location:</i> Internal helix region which overlies the antihelix superior crus.	[IH 4]
86.0	Bladder (Urinary Bladder) <i>Location:</i> Superior concha, below LM 17, superior to Small Intestines points. <i>Function:</i> Relieves bladder dysfunctions, cystitis, frequent urination, enuresis, dripping or retention of urine, bedwetting, pyelitis, sciatica, migraines. In TCM, the bladder clears away damp heat and regulates the lower jiao.	[SC 5]
86.F2	Bladder.F2 <i>Location:</i> This endodermal Phase II point is found on the lowest lobe region of Territory 3.	[LO 3]
86.F3	Bladder.F3 <i>Location:</i> This endodermal Phase III point is found on the upper scaphoid fossa region of Territory 1.	[SF 6]
87.C	Urethra.C <i>Location:</i> Helix root, inferior to LM 1. <i>Function:</i> Relieves painful urination, urethral infections, urethritis, urinary incontinence, bladder problems.	[HX 3]
87.E	Urethra.E <i>Location:</i> Most medial tip of the superior concha.	[SC 4]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
88.C	Prostate.C <i>Location:</i> Innermost tip of superior concha, at same site as the European Urethra point. <i>Function:</i> Relieves prostatitis, prostate cancer, hernias, impotency problems, painful urination, premature ejaculation, nocturnal emission, urinary tract infection.	[SC 4]
88.E	Prostate.E or Vagina.E <i>Location:</i> Underside of internal helix.	[IH 2]
89.C	Uterus.C <i>Location:</i> Central region of triangular fossa. <i>Function:</i> Relieves premenstrual problems, inflammations of uteral lining, irregular menstruation, dysmenorrhea, uterine bleeding, sexual dysfunctions, infertility, pregnancy problems, miscarriages, and can induce early childbirth deliveries. In TCM, this point replenishes kidney qi and nourishes essence.	[TF 5]
89.F1	Uterus.F1 (<i>Fallopian Tubes</i>) <i>Location:</i> This mesodermal Phase I point is found on the underside of the internal helix root of Territory 1.	[IH 3]
89.F2	Uterus.F2 <i>Location:</i> This mesodermal Phase II point is found on the lower inferior concha of Territory 2. The Phase II points for the Prostate and Vagina are at the same location as the Phase II Uterus points.	[IC 1 & IC 2]
89.F3	Uterus.F3 <i>Location:</i> This mesodermal Phase III point is found on the medial lobe of Territory 3. The Phase III points for the Prostate and Vagina are at the same location as the Phase III Uterus points.	[LO 2]
90.C	External Genitals.C <i>Location:</i> Helix region which leaves the face, at LM 1. <i>Function:</i> Relieves scrotal rashes, groin pain, impotency, low back pain, impotency, and premature ejaculation, and facilitates sexual desire. In TCM, this point clears away heat and dampness.	[HX 4]
90.E	External Genitals.E (<i>Penis or Clitoris, Bosch point</i>) <i>Location:</i> Helix root area which is adjacent to the superior tragus.	[HX 1]

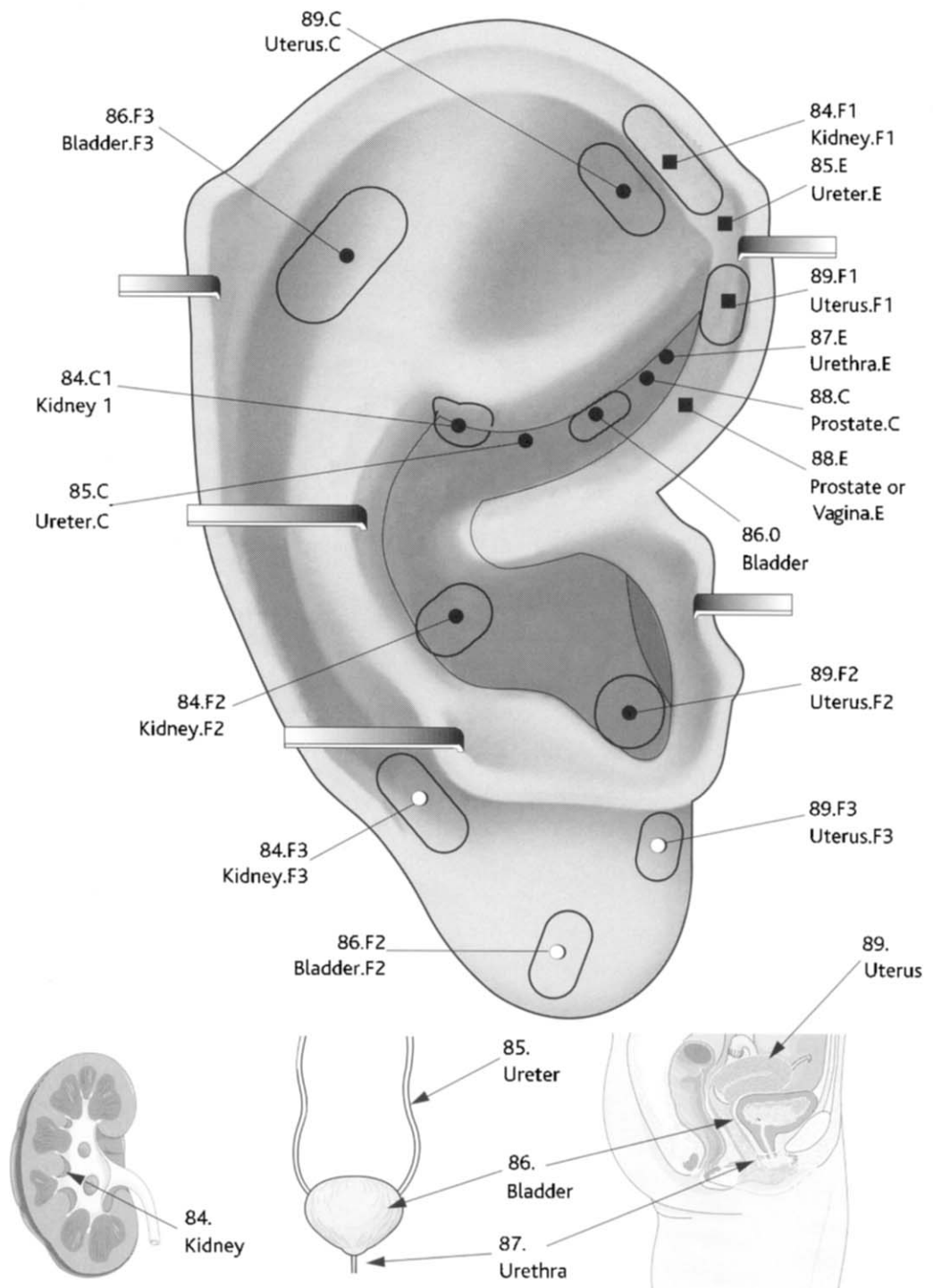


Figure 7.27 Hidden view of urogenital organs represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

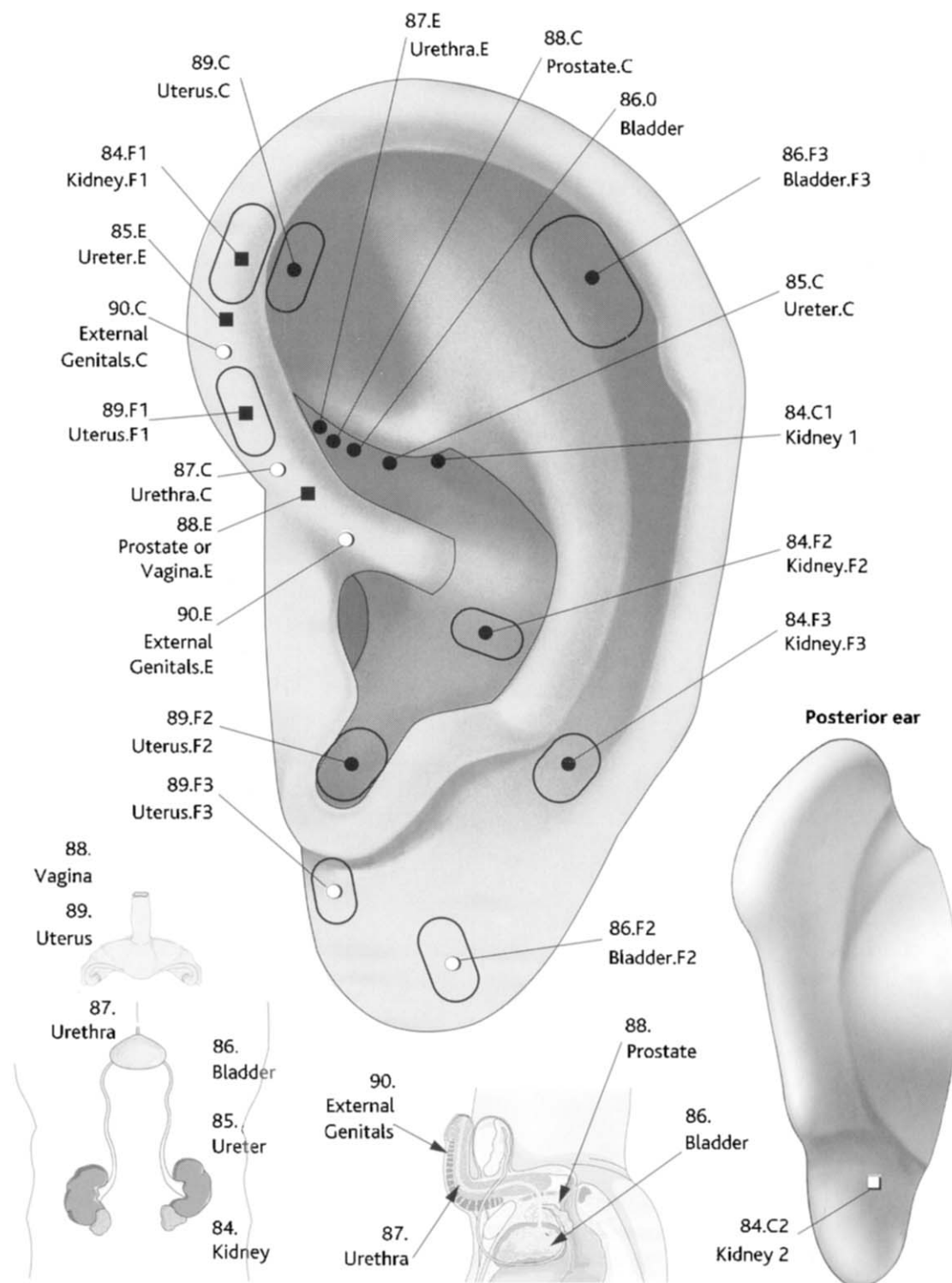


Figure 7.28 Surface view of urogenital organs represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.4 Auricular representation of endocrine glands

The endocrine glands are referred to as the internal secretion system, since hormones manufactured and released by these glands are secreted directly into the circulatory system. The hormones are carried by the blood to all other parts of the body where they exert some selective effects on specific target cells. Chemical substances released by the hypothalamus at the base of the brain are sent to cells in the pituitary gland beneath the hypothalamus. The pituitary gland subsequently releases tropic hormones that have selective action on target glands in the body. The target glands are directed to release their own hormones, depending on the level of tropic hormone received from the pituitary. Sensors in the hypothalamus monitor the blood levels of each target hormone circulating in the blood and determine whether the hypothalamus directs the pituitary to release more or less tropic hormones to activate or suppress the activity of the target glands.

Hypothalamic-pituitary axis (HPA): This term refers to the central role of the hypothalamus that controls the anterior pituitary to release hormones that control the target endocrine glands.

Anterior pituitary: The anterior part of the pituitary gland contains only chemical secretory cells, which can release adrenocorticotropins (ACTH), thyrotropins (TSH), gonadotropins (FSH, LH), endorphins, or growth hormone.

Posterior pituitary: The posterior part of the pituitary gland contains special neurons which descend from the hypothalamus and secrete antidiuretic hormone or oxytocin into the blood. The antidiuretic hormone (ADH) directs the kidneys to reabsorb more water from urine and return that water to the general bloodstream to increase overall fluid level. Oxytocin induces uterine contractions during childbirth.

Pineal gland: This gland lies above the midbrain and below the cerebral cortex, releasing melatonin at night to facilitate sleep and induce the regulation of day–night circadian rhythms. Deficiencies in melatonin are sometimes related to depression.

Thyroid gland: This gland lies at the base of the throat and releases thyroxin hormone in response to the release of pituitary thyrotropin hormone. Thyroxin accelerates the rate of cellular metabolism throughout the body, affecting virtually every cell of the body by stimulating enzymes concerned with glucose oxidation. Iron deficiency reduces the ability of the thyroid gland to produce thyroxin, thus leading to goiter. Hyperthyroid activity can lead to Graves' disease, an autoimmune system disorder that causes elevated metabolic rate and nervousness, whereas hypothyroidism produces symptoms of lethargy and depression.

Parathyroid gland: This gland lies at the base of the throat next to the thyroid gland, and releases parathormone into the blood when it sense decreasing calcium levels in the blood. By facilitation of the availability of calcium, parathormone affects nervous system excitability.

Mammary gland: This gland in the breasts affects milk production in nursing women.

Thymus gland: This gland lies behind the sternum in the chest and affects the differentiation of basal white blood cells made in the bone marrow into active immune cells. Specific differentiated immune cells can become T-helper cells, T-suppressor cells or T-killer cells. Thymus gland activity is related to AIDS/HIV, cancer and autoimmune problems.

Pancreas gland: This gland lies next to the stomach and releases the hormone insulin to facilitate the transport of glucose from the bloodstream into individual cells, where glucose can then become available as energy. The pancreas also releases the hormone glucagon to promote higher blood glucose levels.

Adrenal gland: This gland lies at the top of the abdomen, on top (ad-) of each kidney (-renal). It is divided into the inner adrenal medulla, which releases the hormone adrenalin in response to activation by sympathetic nerves, and the adrenal cortex, which releases cortisol and other stress-related hormones in response to pituitary adrenocorticotropin hormone (ACTH).

Gonads: These sex glands lie at the base of the body. The ovaries in women lie in the pelvic cavity and sequentially release estrogen and progesterone in response to pituitary gonadotropin hormones FSH and LH. The testes in men release the hormone testosterone to increase sex drive, energy level and aggressiveness.

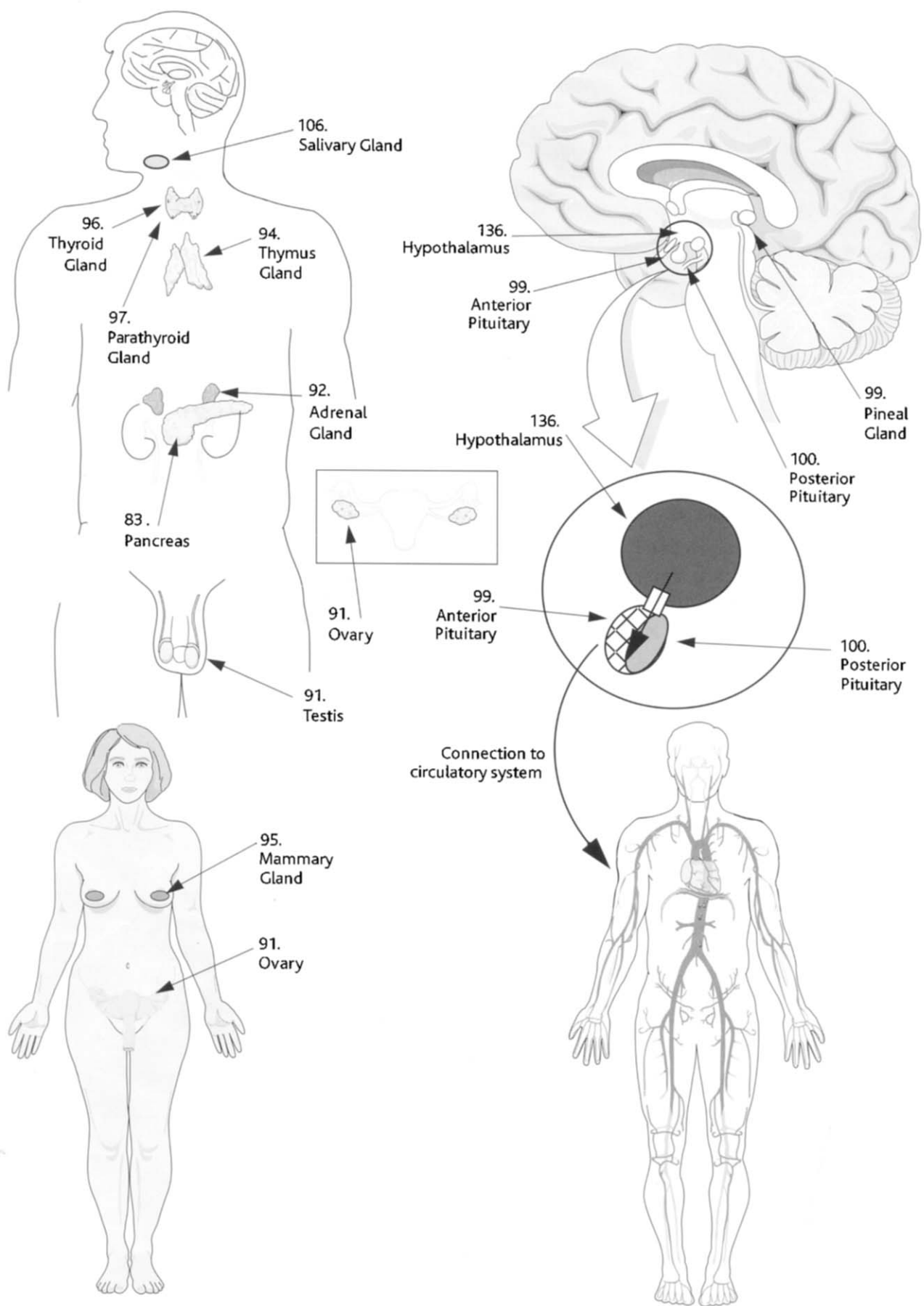


Figure 7.29 Overview of the endocrine glands. (From LifeART[®], *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

7.4.1 Peripheral endocrine glands represented along the concha wall

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
91.C	Ovaries.C or Testes.C (<i>Sex Glands, Gonads, Internal Genitals</i>) <i>Location:</i> Concha wall near the intertragic notch. Located toward the bottom of the auricle, this Chinese point is inconsistent with other points reflecting an inverted fetus orientation, but is consistent with the Nogier location for the pituitary gonadal hormones FSH and LH. These two pituitary hormones would be appropriately found on the inferior part of the external ear that represents the head, where the actual pituitary gland is located. <i>Function:</i> Relieves sexual dysfunctions, testitis, ovaritis, impotency, frigidity.	[CW 1]
91.F1	Ovaries.F1 or Testes.F1 <i>Location:</i> This mesodermal Phase I endocrine gland is found under the internal helix root of Territory 1. The correspondence of the sex glands to this auricular area makes logical sense for the inverted fetus model as this helix root region of the ear generally represents urogenital organs found lower in the body, thus higher in the ear.	[IH 1]
91.F2	Ovaries.F2 or Testes.F2 <i>Location:</i> This mesodermal Phase II endocrine gland is found on the lower inferior concha of Territory 2.	[IC 2]
91.F3	Ovaries.F3 or Testes.F3 <i>Location:</i> This mesodermal Phase III endocrine gland is found on the lower medial lobe of Territory 3.	[LO 2]
92.C	Adrenal Gland.C (<i>Suprarenal Gland</i>) <i>Location:</i> The prominent knob of the inferior tragus protrusion at LM 10. As this lower tragal and intertragic notch region of the auricle generally represents tropic hormones released by the pituitary gland, the Chinese Adrenal gland may actually correspond to the pituitary hormone ACTH that regulates the adrenal cortex. Nogier reported that several points on the auricle represent the release of the adrenal hormone cortisol; one of those locations occurs at the same region of the tragus as the Chinese location for the adrenal glands. <i>Function:</i> Affects adrenocortical hormones that assist one in dealing with stress. Relieves stress-related disorders, fevers, inflammatory disorders, infections, hypersensitivity, rheumatism, allergies, coughs, asthma, skin disorders, hypertension, hypotensive shock, profuse menstruation and blood circulation problems. It is used for disturbance of adrenocortical function, such as Addison's disease and Cushing's syndrome. This point is used in ear acupuncture treatment plans almost as frequently as many master points.	[TG 3]
92.E	Adrenal Gland.E <i>Location:</i> Concha wall, below LM 16, near location for Chinese Kidney point. The actual adrenal glands in the body sit on top (ad-) of each kidney (-renal). Although some auricular medicine practitioners continued to maintain that the upper concha wall corresponded to the adrenal cortex, Nogier changed the position of the representation of this gland as he developed the three phase model.	[CW 7]
93.F1	Cortisol 1 <i>Location:</i> This mesodermal Phase I adrenal hormone is found on the antihelix body of Territory 1. <i>Function:</i> A corticosteroid adrenal hormone that is utilized to deal with stress.	[SF 2 & AH 9]
93.F2	Cortisol 2 <i>Location:</i> This mesodermal Phase II adrenal hormone is found on the superior concha of Territory 2, near ear points for the European Adrenal Gland and the Chinese Kidney.	[SC 6]
93.F3	Cortisol 3 <i>Location:</i> This mesodermal Phase III adrenal hormone is found on the lower tragus of Territory 3, near the Chinese Adrenal Gland and the Master Tranquilizer point.	[TG 2]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
94.E	Thymus Gland.E <i>Location:</i> This endodermal endocrine gland is found on the peripheral concha wall near the Pancreas point. <i>Function:</i> The thymus gland affects the development of T-cells of the immune system. This ear point is used for the common cold, flu, allergies, cancer, HIV, AIDS, and autoimmune disorders.	[CW 6]
95.C	Mammary Gland.C <i>Location:</i> Each side of the antihelix body, just superior to the antihelix tail. <i>Function:</i> This point is used to treat problems with milk secretion, breast development, or breast cancer.	[AH 10]
95.E	Mammary Gland.E <i>Location:</i> Concha wall above concha ridge, central to Chinese Mammary Gland points.	[CW 6]
96.C	Thyroid Gland.C <i>Location:</i> Antihelix tail, alongside the scaphoid fossa. <i>Function:</i> Thyroxin released by the thyroid gland affects overall metabolic rate and general arousal. Relieves hyperthyroidism, hypothyroidism, goiter, sore throats.	[AH 8]
96.E	Thyroid Gland.E <i>Location:</i> This endodermal Phase I endocrine gland is found on the concha wall of Territory 2, above the junction of the concha ridge and the inferior concha.	[CW 5]
96.F2	Thyroid Gland.F2 <i>Location:</i> This endodermal Phase II endocrine gland is found on the antihelix tail of Territory 3, identical to the region where the Chinese Thyroid Gland is found.	[AH 8]
96.F3	Thyroid Gland.F3 <i>Location:</i> This endodermal Phase III endocrine gland is found at the intertragic notch, also associated with the pituitary hormone TSH, which regulates the release of thyroxin by the thyroid gland.	[CW 1/IT 2]
97.E	Parathyroid Gland.E <i>Location:</i> Concha wall, inferior to European Thyroid Gland point. <i>Function:</i> The parathyroid gland affects calcium metabolism. This point relieves muscle cramps, muscle spasms.	[CW 4]

7.4.2 Cranial endocrine glands represented at the intertragic notch

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
98.E	Pineal Gland (<i>Epiphysis, Point E</i>) <i>Location:</i> The most inferior aspect of the tragus, at LM 9. <i>Function:</i> Pineal gland releases melatonin hormone to affect circadian rhythm and day–night cycles. Relieves jet lag, irregular sleep patterns, insomnia, depression.	[TG 1]
99.0	Anterior Pituitary (<i>Adenohypophysis, Internal Secretion, Master Endocrine</i>) <i>Location:</i> Most inferior part of inferior concha, below intertragic notch. <i>Function:</i> Anterior pituitary is the master endocrine gland, releasing pituitary hormones to control the release of hormones from all other endocrine glands. This ear point relieves hypersensitivity, allergies, rheumatism, skin diseases, reproductive disorders, diseases of blood vessels, digestive disorders.	[IC 1]
100.E	Posterior Pituitary (<i>Neurohypophysis</i>) <i>Location:</i> Inferior concha near inferior side of ear canal. <i>Function:</i> Posterior pituitary contains neurons from the hypothalamus, which releases hormones into the general bloodstream. The posterior pituitary releases antidiuretic hormone affecting thirst, internal water regulation and salt metabolism.	[IC 3]
101.E	Gonadotropins (<i>Follicle Stimulating Hormone, FSH; Luteinizing Hormone, LH</i>) <i>Location:</i> Concha wall near intertragic notch. <i>Function:</i> Gonadal pituitary hormones FSH and LH regulate release of sex hormones by the ovaries or testes. This point relieves sexual dysfunctions, low sex drive, infertility, irregular menstruation, premenstrual syndrome, testitis, ovaritis, fatigue, depression, eye troubles.	[CW 1]
102.E	Thyrotropin (<i>Thyroid Stimulating Hormone, TSH</i>) <i>Location:</i> Wall of intertragic notch, midway between tragus and antitragus. <i>Function:</i> Thyroidal pituitary hormone TSH regulates the release of thyroxin hormone by the thyroid gland. Reduces metabolic rate, hyperthyroidism, hypothyroidism, hyperactivity and Graves' disease.	[IT 2]
103.E	Parathyrotropin (<i>Parathyroid Stimulating Hormone, PSH</i>) <i>Location:</i> Most central part of wall of intertragic notch, below LM 9. <i>Function:</i> Parathyroid pituitary hormone PSH regulates parathormone release by the parathyroid gland. This point facilitates calcium metabolism, reduces muscle tetanus.	[IT 2]
104.F1	ACTH 1 <i>Location:</i> This Phase I pituitary hormone is found on the peripheral ear lobe of Territory 3. <i>Function:</i> The pituitary hormone ACTH regulates the release of cortisol and other corticosteroid hormones by the adrenal cortex to alleviate stress and stress-related disorders.	[LO 7]
104.F2	ACTH 2 <i>Location:</i> This Phase II pituitary hormone is found on the upper scaphoid fossa of Territory 1.	[SF 6]
104.F3	ACTH 3 (<i>Adrenocorticotrophin, Surrenalian point, Adrenal Control point</i>) <i>Location:</i> This Phase III pituitary gland hormone is found near the intertragic notch and inferior to the Chinese Adrenal point.	[ST 1]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
105.E	Prolactin (LTH) <i>Location:</i> Inferior region of inferior concha, peripheral to inferior ear canal. <i>Function:</i> This pituitary hormone regulates the activity of the mammary glands, initiating lactation and milk secretion.	[IC 1]
106.C	Salivary Gland.C (Parotid Gland) <i>Location:</i> Concha wall just behind the apex of antitragus, LM 14. <i>Function:</i> Salivary glands are regulated by activation of the parasympathetic nervous system in response to food. Relieves mumps, salivary gland inflammations, skin diseases.	[CW 2]
106.E	Salivary Gland.E (Parotid Gland) <i>Location:</i> Peripheral region of lobe, next to the Lower Jaw point. <i>Function:</i> Relieves mouth dryness, mumps, salivary gland inflammations. The salivary glands are actually exocrine glands rather than endocrine glands.	[LO 8]

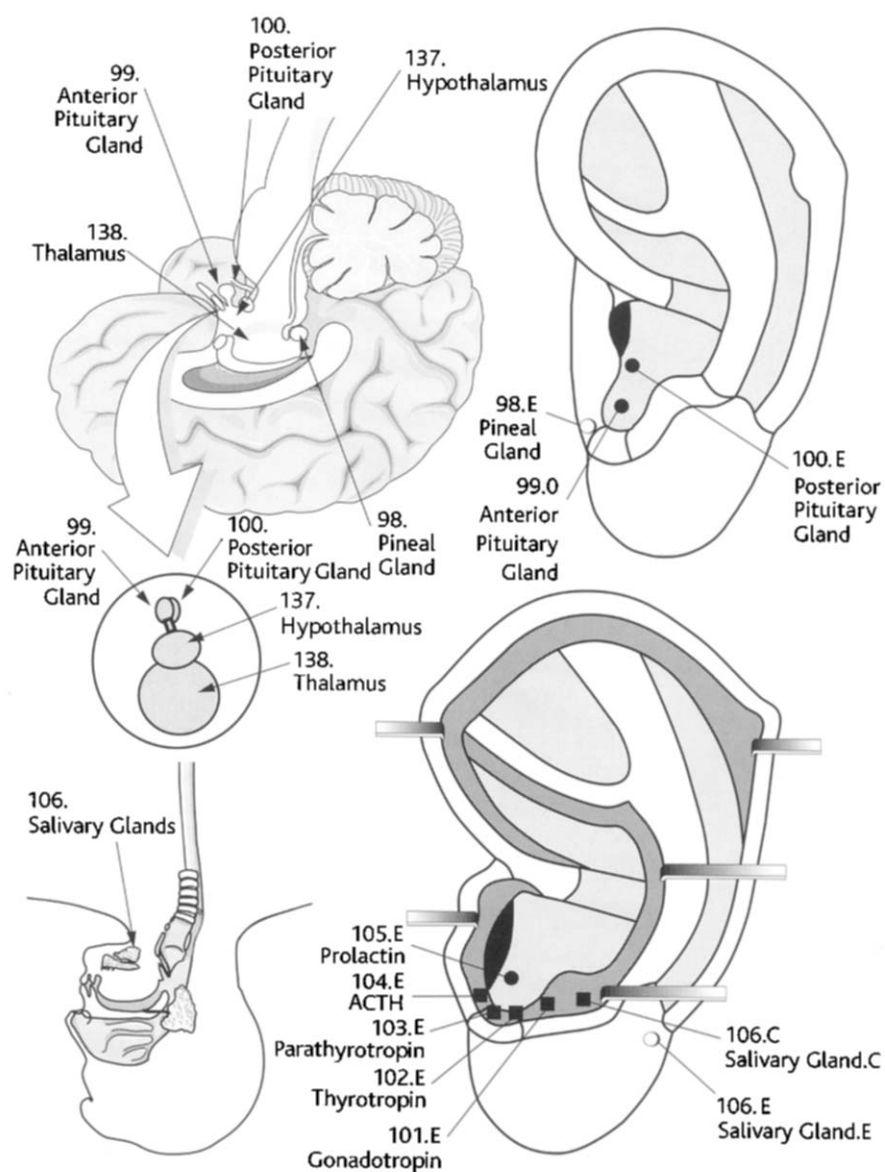


Figure 7.30 Cranial endocrine glands represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

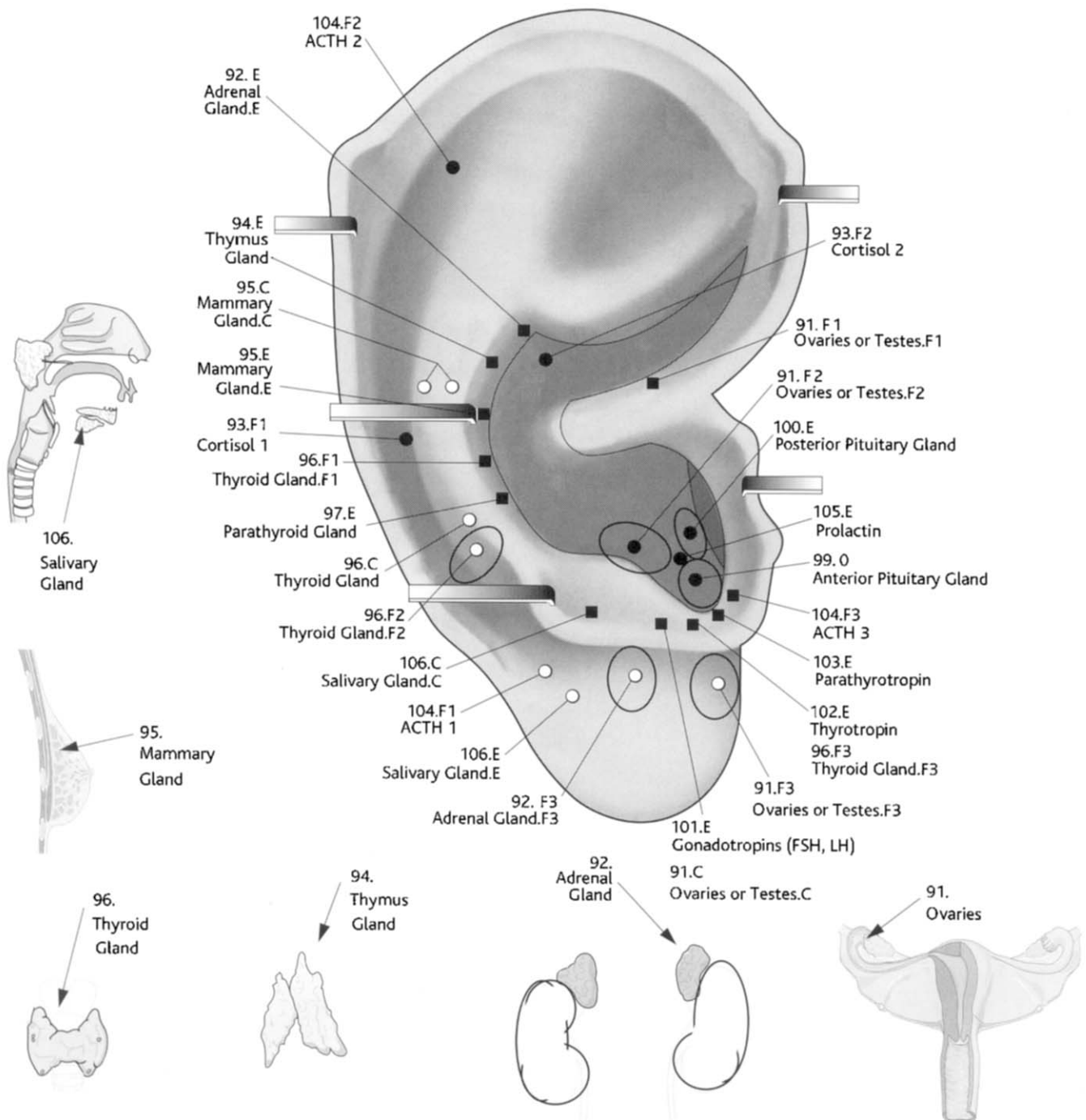


Figure 7.31 Hidden view of the endocrine glands represented on the auricle. (From LifeART®, *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

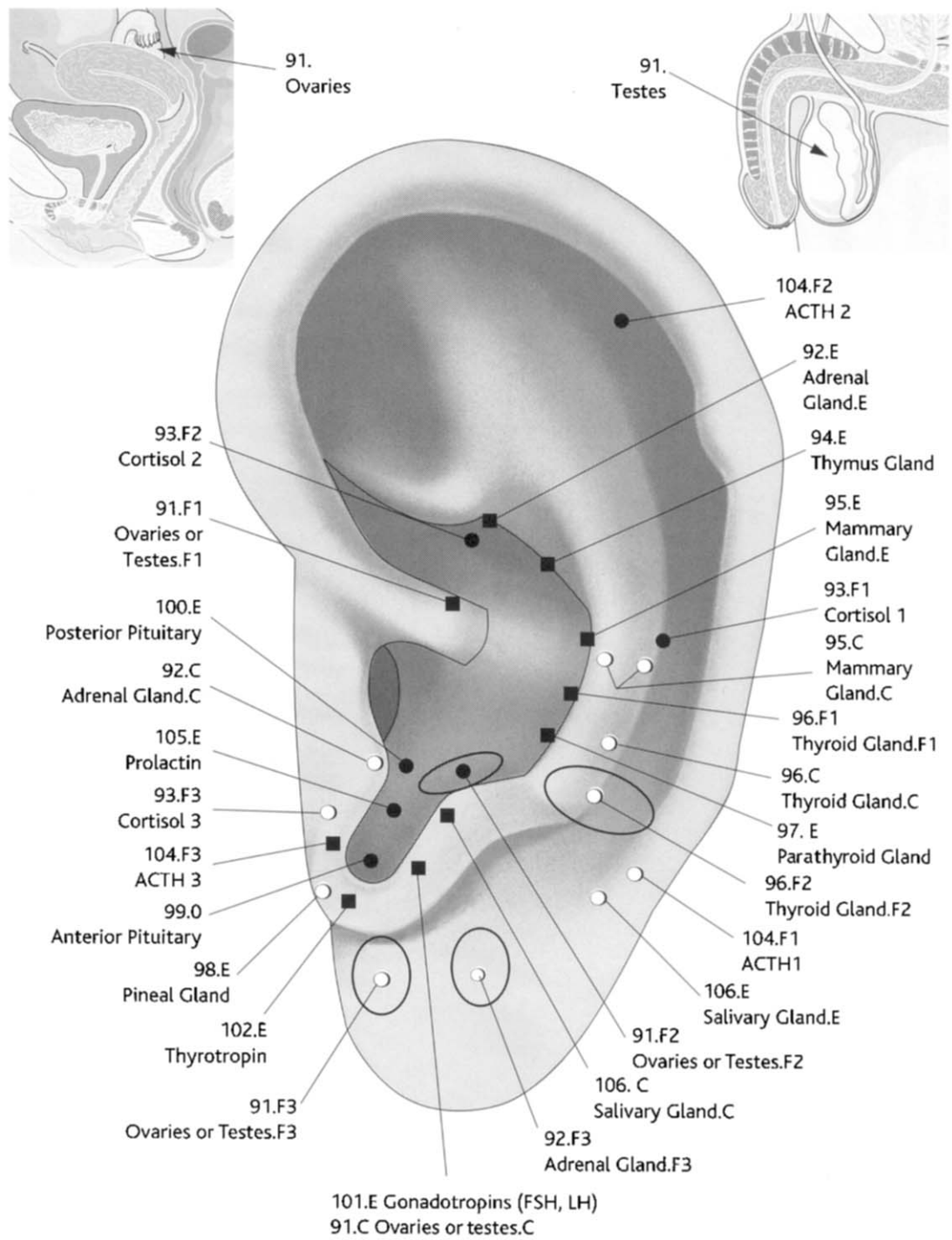


Figure 7.32 Surface view of the endocrine glands represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.5 Auricular representation of the nervous system

The nervous system is primarily represented on the helix and lobe, but is found throughout all parts of the external ear because the nervous system connects to every part of the body.

Central nervous system (CNS): The core of the nervous system consists of the brain and spinal cord, which make the principal decisions regarding the regulation of all other parts of the body.

Peripheral nervous system: The peripheral nerves consist of sensory neurons which send messages to the spinal cord from the skin, muscles and visceral organs, or motor neurons which travel from the spinal cord out to the muscles and organs of the body.

Somatic nervous system: This division of the peripheral nervous system consists of sensory neurons which receive afferent messages from the skin and the muscles and motor neurons which control the activity of skeletal muscles. The somatic nerves are voluntarily controlled by the more conscious aspects of the pyramidal system of the motor cortex descending to alpha motor neurons that send out impulses to contract striate muscles. Subtle shifts in the manner of movement and in muscle tone are regulated by gamma motor neurons that are modulated by the less conscious subcortical extrapyramidal system. Sensory somatic neurons enter the dorsal root of the spinal cord and ascend the dorsal columns of the spinal white matter to synapse in the brainstem, the thalamus, and ultimately arrive at the somatosensory cortex on the postcentral gyrus of the parietal lobe. The somatic nerves maintain the pathological reflexes which produce the chronic muscle tension that leads to myofascial pain.

Autonomic nervous system: This division of the peripheral nervous system consists of those nerves which connect the spinal cord to the visceral organs of the body. This system is regulated unconsciously by the subcortical hypothalamus in the brain. All autonomic nerves leaving the CNS have preganglionic nerves which travel from the spinal cord to a peripheral ganglion and which synapse onto postganglionic nerves that travel from that ganglion to a visceral organ. Every internal organ sends sensory neurons to the spinal cord or brain, which then send the visceral message to the hypothalamus. Each visceral organ also receives descending motor messages from the hypothalamus.

Sympathetic nervous system: This subdivision of the autonomic nervous system consists of those autonomic nerves which leave the spinal cord in the region of the thoracic and lumbar vertebrae and travel to a chain of ganglia alongside the spinal vertebrae. From this sympathetic chain, postganglionic nerves branch out to internal organs. Sympathetic nerves cause excitation and arousal of bodily energy in times of stress, strong emotion or physical exercise. This system leads to an increase in heart rate, blood pressure, vasoconstriction, sweating, and pupillary dilation, and is accompanied by the release of the hormone adrenalin from the adrenal medulla gland. Sympathetic postganglionic nerves are adrenergic, utilizing the neurotransmitter norepinephrine.

Parasympathetic nervous system: This subdivision of the autonomic nervous system consists of those autonomic nerves which leave the central nervous system from either the cranium or from the sacral vertebrae. These preganglionic nerves travel out into the body and synapse on postganglionic nerves near a visceral organ. Parasympathetic nerves lead to sedation and conservation of bodily energy. They cause decreases in heart rate and blood pressure, while producing increases in vasodilation, pupillary constriction, salivation and digestion of food. Parasympathetic synapses are cholinergic, employing the neurotransmitter acetylcholine.

Sympathetic preganglionic nerves: These autonomic nerves travel from the thoracic–lumbar spine to the sympathetic chain of ganglia outside the spinal vertebrae.

Sympathetic postganglionic nerves: These autonomic nerves travel from the sympathetic chain of ganglia outside the spinal vertebrae to the actual visceral organ.

Splanchnic nerves: These peripheral, sympathetic nerves connect to lower visceral organs.

Vagus nerve: This primary parasympathetic nerve connects to most visceral organs.

Sciatic nerve: This somatic nerve travels from the lumbar spinal cord down to the leg.

Trigeminal nerve: This somatic nerve affects sensations of the face and facial movements.

Facial nerve: This somatic nerve controls major facial movements.

Oculomotor nerve: This somatic nerve controls eye movements.

Optic nerve: This cranial nerve responds to visual sensations from the eye.

Olfactory nerve: This cranial nerve responds to smell sensations from the nose.

Auditory nerve: This cranial nerve responds to hearing sensations from the ear and affects the sense of physical balance and equilibrium.

Central nervous system regions of the brain

Cortical brain regions: The highest level of the brain determines the intellectual processes of thinking, learning and memory. The cerebral cortex initiates voluntary movements and is consciously aware of sensations and feelings.

Prefrontal cortex: This most evolved region of the human cortex initiates conscious decisions.

Frontal cortex: This anterior cortical region contains the precentral gyrus motor cortex which initiates specific voluntary movements. It activates upper motor neurons in the pyramidal system that send direct neural impulses to lower motor neurons in the spinal cord.

Parietal cortex: This posterior region contains the somatosensory cortex on the postcentral gyrus. This region consciously perceives the sensations of touch and the general awareness of spatial relationships.

Temporal cortex: This posterior and lateral cortical region contains the hearing centers of the brain. The left temporal lobe processes the verbal meaning of language and the rational logic of mathematics, whereas the right temporal lobe processes the intonation and rhythm of sounds and music.

Occipital cortex: This most posterior cortical region processes conscious visual perceptions. The left occipital lobe can consciously read words, whereas the right occipital lobe is better at recognizing faces and emotional expressions.

Corpus callosum: This broad band of myelinated axon fibers connects the left cerebral hemisphere cortical lobes with their respective lobe on the right cerebral hemisphere.

Cerebellum: This posterior region beneath the occipital lobe and above the pons is part of the extrapyramidal system control of semivoluntary movements and postural adjustments.

Subcortical brain regions: These regions of the brain serve as an intermediary between the cerebral cortex above and the spinal cord below, operating outside of conscious awareness.

Thalamus: This spherical nucleus relays sensory messages from lower brainstem regions up to a specific locus on the cerebral cortex. The thalamus also contains neurons which participate in the supraspinal gating of pain and in general arousal or sedation.

Anterior hypothalamus: This nucleus lies below the thalamus, where it connects to the limbic system, the pituitary gland and the parasympathetic nervous system. This nucleus produces general sedation.

Posterior hypothalamus: This nucleus connects to the limbic system and the pituitary gland. It activates the sympathetic nervous system, producing brain arousal and behavioral aggression.

Limbic system: This collection of subcortical nuclei affects emotions and memory.

Cingulate cortex: This paleocortex limbic region lies immediately beneath the higher neocortex.

Hippocampus: This semicircular limbic structure lies beneath the neocortex, but outside the thalamus. It affects attention span, long term memory storage and emotional experiences.

Amygdala nucleus: This spherical limbic nucleus lies under the lateral temporal lobe and modulates increases or decreases in aggressiveness, irritability and mania.

Septal nucleus: This medial limbic structure is involved in pleasure sensations and reward.

Nucleus accumbens: This midline nucleus occurs next to the septal nucleus and is the primary dopaminergic control center for the reward pathways of the brain. It plays a significant role in the brain's response to all substances that are addictive in nature. Neurons in this nucleus are excited by alcohol, opium, cocaine, and methamphetamine. Stimulation of this nucleus produces strong pleasure cravings.

Striatum: These basal ganglia nuclei lie along the limbic system, and outside the thalamus. The specific striatal nuclei include the caudate, putamen and globus pallidus, all of which are part of the extrapyramidal system control of semivoluntary movements.

Brainstem: This term refers to the medulla oblongata of the brainstem. It affects basic, unconscious control of body metabolism, respiration and heart rate.

Pons: This brainstem region lies below the cerebellum and affects REM sleep and dreams.

Midbrain tectum: This superior part of the midbrain contains colliculi for sensory reflexes.

Midbrain tegmentum: This inferior part of the midbrain affects basic metabolism and pain.

Reticular formation: This region within the midbrain tegmentum activates general arousal.

Red nucleus and substantia nigra: This region within the midbrain tegmentum affects the extrapyramidal system and the striatum, regulating semivoluntary movements.

7.5.1 Nogier phase representation of the nervous system

Neurological points for Phase I The central nervous system is represented on the ear lobe of Territory 3 in Phase I of Nogier's system. The Thalamus and Hypothalamus are found on the external surface of the antitragus, whereas they were previously located on the concha wall and inferior concha. The Cerebral Cortex is still represented on the ear lobe.

Neurological points for Phase II The ectodermal central nervous system shifts to the helix, the antihelix, scaphoid fossa and the triangular fossa regions of Territory 1 in Phase II. The Thalamus in Phase II corresponds to the auricular location for the Chinese master point Shen Men. The Cerebral Cortex in Phase II is found along the antihelix superior crus, scaphoid fossa, and triangular fossa.

Neurological points for Phase III The central nervous system shifts to the concha of Territory 2 in Phase III. The cortical areas are located in the superior concha, while subcortical limbic and striatal areas are found in the inferior concha. The location of the Phase III Thalamus occurs with its original designation on the concha wall, while the Hypothalamus that is found in the inferior concha coincides with the location of the Chinese Lung points used in the treatment of narcotic detoxification and drug abuse.

Table 7.1 Auricular zone representation of nervous system points for each Nogier phase

No.	Neurological representations on ear	Phase I <i>Territory 3</i>	Phase II <i>Territory 1</i>	Phase III <i>Territory 2</i>
54	Eye	LO 4	AH 11	IC 3
58	Ear	LO 1	TG 5	SC 6
98	Pineal Gland (epiphysis)	TG 1	HX 1	SC 5
99	Pituitary Gland (hypophysis)	IT 2, IC 1	AH 17, AH 18	CW 1
109	Sympathetic nerves	CW 2	HX 12, HX 13	CR 1, CR 2
110	Parasympathetic Sacral nerves	CW 3	HX 15	CR 2
113	Vagus nerve	CW 1	HX 12	CR 1
124	Spinal Cord	HX 14, HX 15	AH 9, SF 2	IC 5
127	Brainstem (Medulla Oblongata)	LO 7, LO 8	HX 2	SC 1
131	Reticular Formation	LO 8	AH 12, SF 3	IC 8
133	Red Nucleus	LO 6	CW 10	IC 6
134	Substantia Nigra	LO 6	IH 1, IH 2	IC 7
135	Striatum (Basal Ganglia)	LO 4, AT 1	HX 9, HX 10	IC 3, IC 4
137	Hypothalamus	LO 6	AH 3, AH 4	IC 4
138	Thalamus (Subcortex, Brain)	AT 2, AT 3	AH 11	CW 2, CW 3
140	Hippocampus	LO 2	CW 9	IC 6
141	Amygdala	LO 2, IT 1	CW 8	IC 7
142	Septal Nucleus and Nucleus Accumbens	LO 2	HX 7	IC 1
143	Cingulate Gyrus	IT 1	CW 7	IC 6
145	Cerebellum	AT 3, AH 1	HX 5, HX 6	SC 8
147	Occipital Cerebral Cortex	LO 7	AH 12, SF 4	SC 7
148	Temporal Cerebral Cortex	LO 5	AH 14, SF 5	SC 6
149	Parietal Cerebral Cortex	LO 5	AH 18, SF 6	SC 6
150	Frontal Cerebral Cortex	LO 3	AH 13, TF 2	SC 5
151	Prefrontal Cerebral Cortex	LO 1	AH 15, TF 3	SC 4

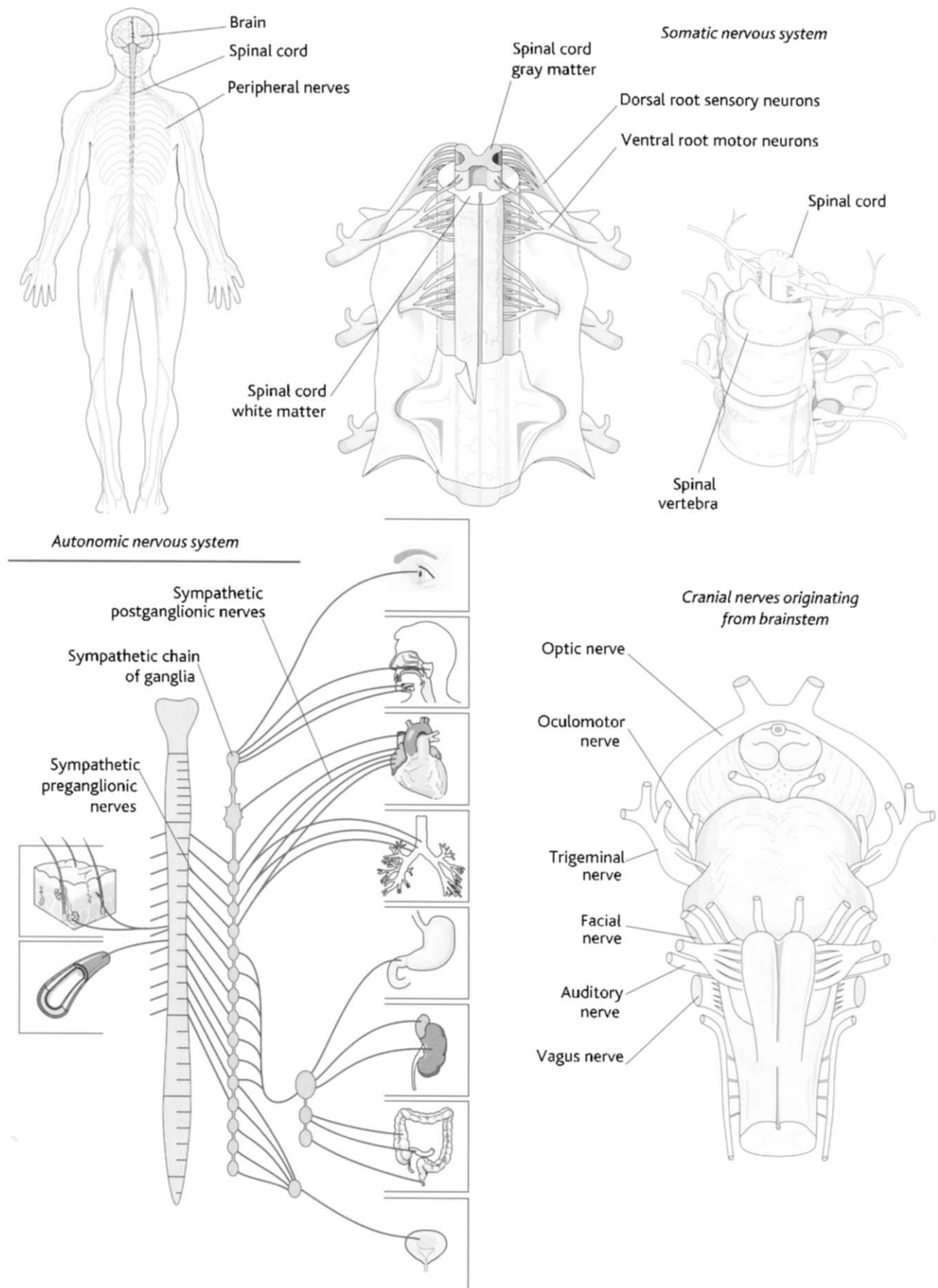


Figure 7.33 Overview of the peripheral nervous system and the spinal cord. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

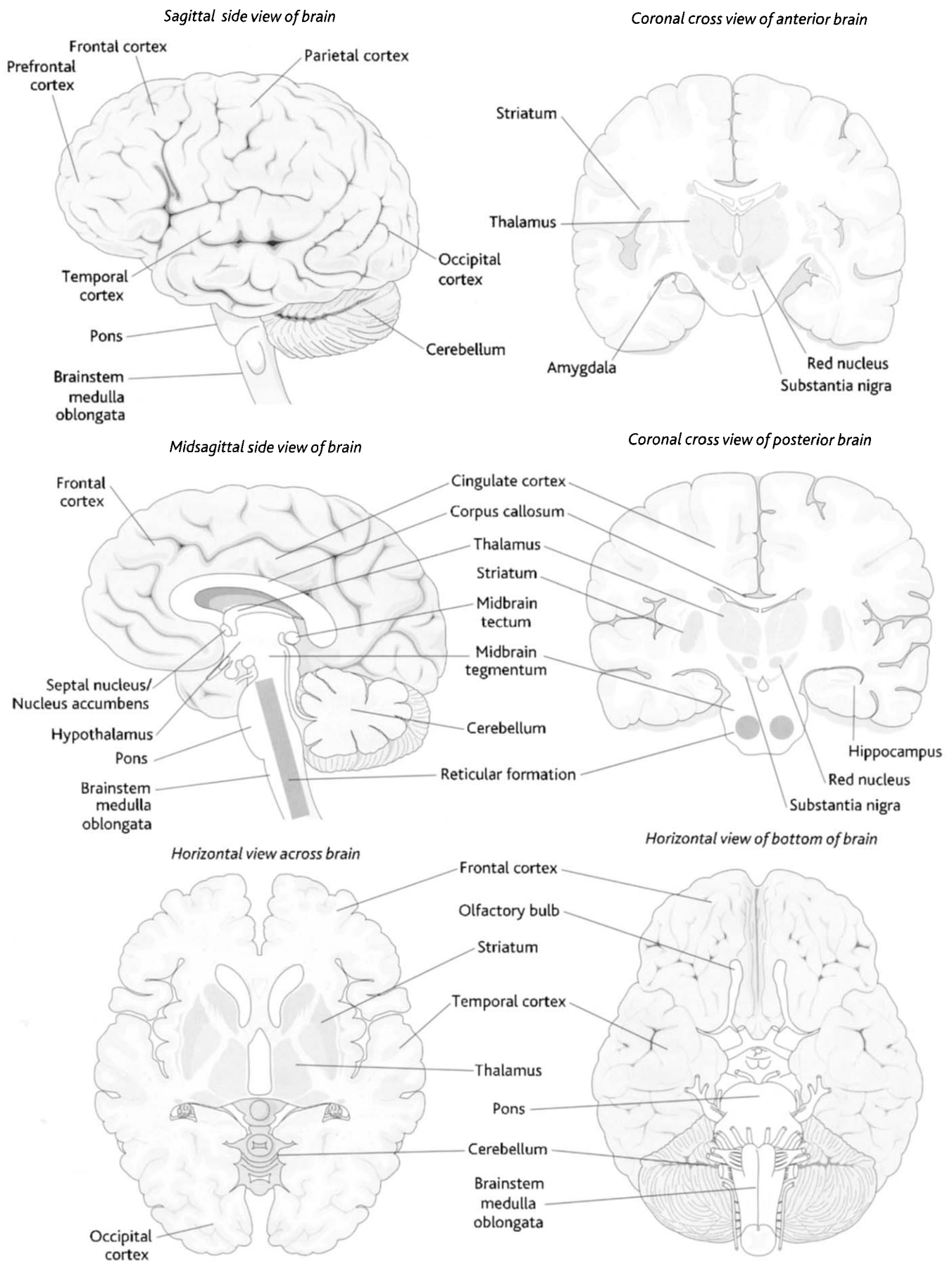


Figure 7.34 Overview of the central nervous system. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.5.2 Peripheral nervous system represented on the ear

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
107.O	Sciatic nerve (<i>Sciatica, Ischium, Ischialgia</i>) <i>Location:</i> A notch at the midpoint of the top surface of the antihelix inferior crus, at LM 17. <i>Function:</i> Relieves sciatic neuralgia, lower limb paralysis, post-polio syndrome.	[AH 6]
108.E	Sympathetic Preganglionic nerves <i>Location:</i> Along the length of the helix tail as it joins the gutter of the scaphoid fossa. <i>Function:</i> Relieves reflex sympathetic dystrophy, vasospasms, neuralgias.	[HX 12–HX 14]
109.E	Sympathetic Postganglionic nerves (<i>Paravertebral Sympathetic chain</i>) <i>Location:</i> Along the length of the concha wall above the concha ridge and superior concha. <i>Function:</i> Relieves back pain, reflex sympathetic dystrophy, neuralgias, vasospasms, poor blood circulation.	[CW 5–CW 9]
110.E1	Parasympathetic Cranial nerves <i>Location:</i> Intertragic notch region of the inferior concha. <i>Function:</i> Relieves autonomic nervous disorders affecting the upper body and the head.	[IC 1]
110.E2	Parasympathetic Sacral nerves (<i>Pelvic Splanchnic nerve</i>) <i>Location:</i> Inferior concha, superior to the ear canal. <i>Function:</i> Relieves abdominal visceral control, pelvic pain, sexual desire.	[IC 6]
111.E	Hypogastric plexus (<i>Lumbosacral Splanchnic nerves</i>) <i>Location:</i> Central region of the superior concha. <i>Function:</i> This plexus distributes lumbar sympathetic nerves to the rectum, bladder, ureter and genital organs. Relieves pelvic dysfunctions, rectal, ureter and bladder control.	[SC 4]
112.E	Solar plexus (<i>Celiac plexus, Thoracic Splanchnic nerves, Abdominal Brain</i>) <i>Location:</i> Helix root, above Point Zero and LM 0. <i>Function:</i> Relieves abdominal dysfunctions, gastrointestinal spasms and pathology in the viscera of upper abdominal organs, such as the stomach, liver, spleen, pancreas and adrenal glands.	[HX 1]
113.E	Vagus nerve (<i>Tenth Cranial nerve, X n., Cranial Parasympathetic nerves</i>) <i>Location:</i> Inferior concha, next to the ear canal, and spreads throughout the concha. <i>Function:</i> Vagus nerve affects parasympathetic nervous system control of most thoracic and abdominal organs. This point relieves diarrhea, heart palpitations, anxiety.	[IC 1, IC 3, IC 6]
114.E	Auditory nerve (<i>Eighth Cranial nerve, VIII n., Cochleovestibular nerve</i>) <i>Location:</i> Underside of the subtragus. <i>Function:</i> Affects hearing and vestibular disorders, deafness, tinnitus, equilibrium imbalance.	[ST 3]
115.E	Facial nerve (<i>Seventh Cranial nerve, VII n., Nucleus of Solitary Tract</i>) <i>Location:</i> Peripheral region of the posterior ear lobe. <i>Function:</i> Relieves facial muscle spasms, tics, facial paralysis.	[PL 6]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
116.E	Trigeminal nerve (<i>Fifth Cranial nerve, Vn.</i>) <i>Location:</i> Peripheral edge of the ear lobe. <i>Function:</i> Relieves trigeminal neuralgia, dental analgesia.	[LO 5, PL 5]
117.E	Oculomotor nerve (<i>Third Cranial nerve, III n.</i>) <i>Location:</i> Peripheral edge of the ear lobe. <i>Function:</i> Affects control of eye movements, relieves eye twitches.	[PL 3]
118.E	Optic nerve (<i>Second Cranial nerve, II n.</i>) <i>Location:</i> Central side of the ear lobe, inferior to the intertragic notch, LM 9. <i>Function:</i> Relieves visual disorders, eyesight dysfunctions.	[LO 1]
119.E	Olfactory nerve (<i>First Cranial nerve, I n.</i>) <i>Location:</i> Central side of the ear lobe, inferior to the intertragic notch, LM 9. <i>Function:</i> Relieves problems with smell sensations.	[LO 2]
120.E	Inferior Cervical ganglia (<i>Stellate ganglion, Cervical–Thoracic ganglia</i>) <i>Location:</i> Junction of the inferior concha ridge and concha wall. <i>Function:</i> Affects thoracic sympathetic control, migraines, whiplash.	[CW 5]
121.E	Middle Cervical ganglia (<i>Wonderful point, Marvelous point</i>) <i>Location:</i> Junction of the inferior concha and concha wall. <i>Function:</i> Balances excessive sympathetic arousal, reduces hypertension, affects blood vascular regulation, relieves muscle tension.	[CR 2/CW 4]
122.E	Superior Cervical ganglia <i>Location:</i> Junction of inferior concha and concha wall, below LM 14. <i>Function:</i> Affects cranial sympathetic control.	[CW 4]
123.C	Lesser Occipital nerve (<i>Minor Occipital nerve, Wind Stream</i>) <i>Location:</i> Junction of the internal helix with the superior scaphoid fossa. <i>Function:</i> Alleviates migraine headaches, occipital headaches, blood vessel spasms, posttraumatic brain syndrome, arteriosclerosis, neuralgias, numbness, spondylopathy, neurasthenia and anxiety. It is used in Chinese ear acupuncture like a master point to tranquilize the mind and clear zang-fu meridian channels.	[IH 10/SF 5]

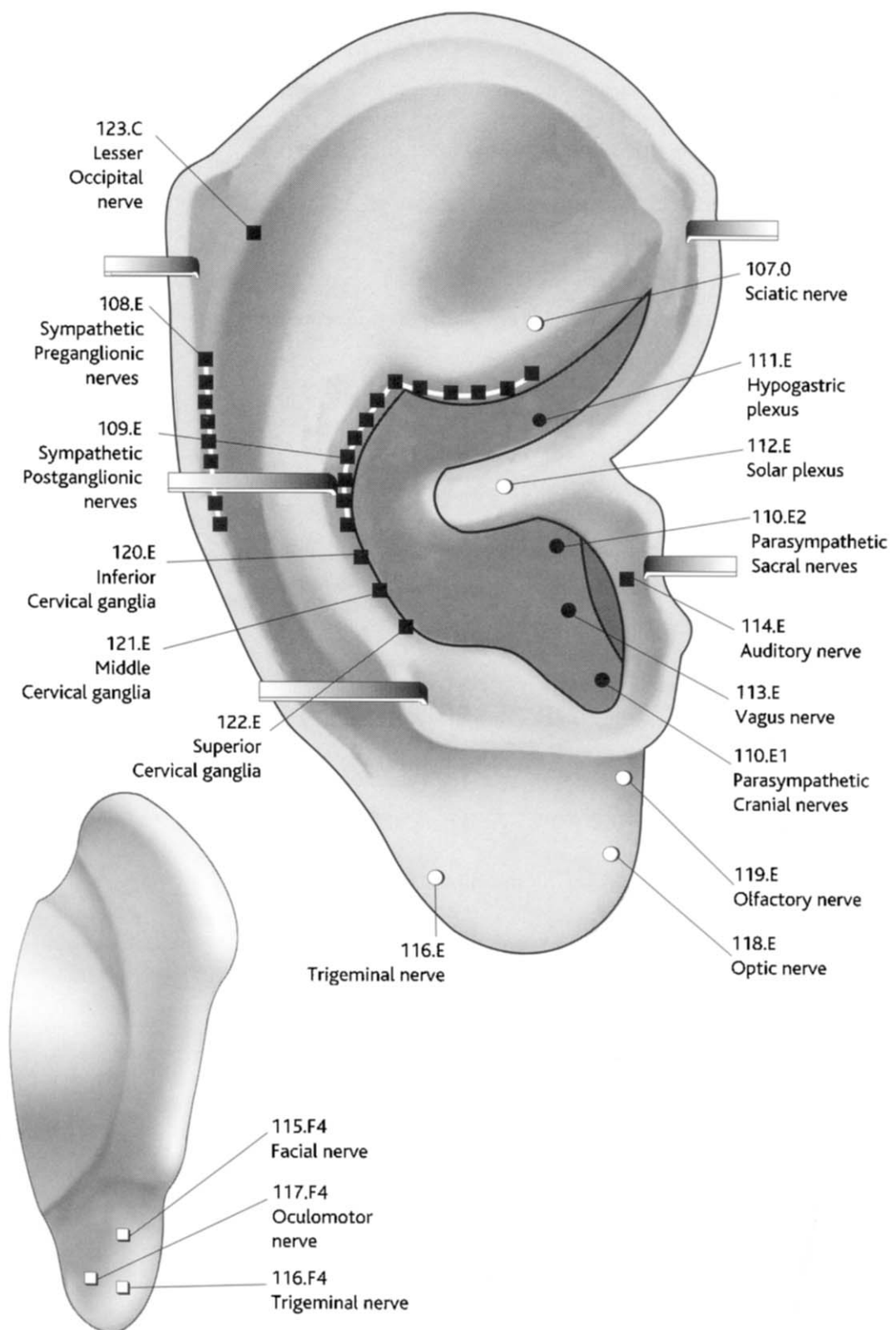


Figure 7.35 Hidden view of the peripheral nervous system represented on the auricle. (From LifeART®, *Super Anatomy*, © Lippincott Williams & Wilkins, with permission.)

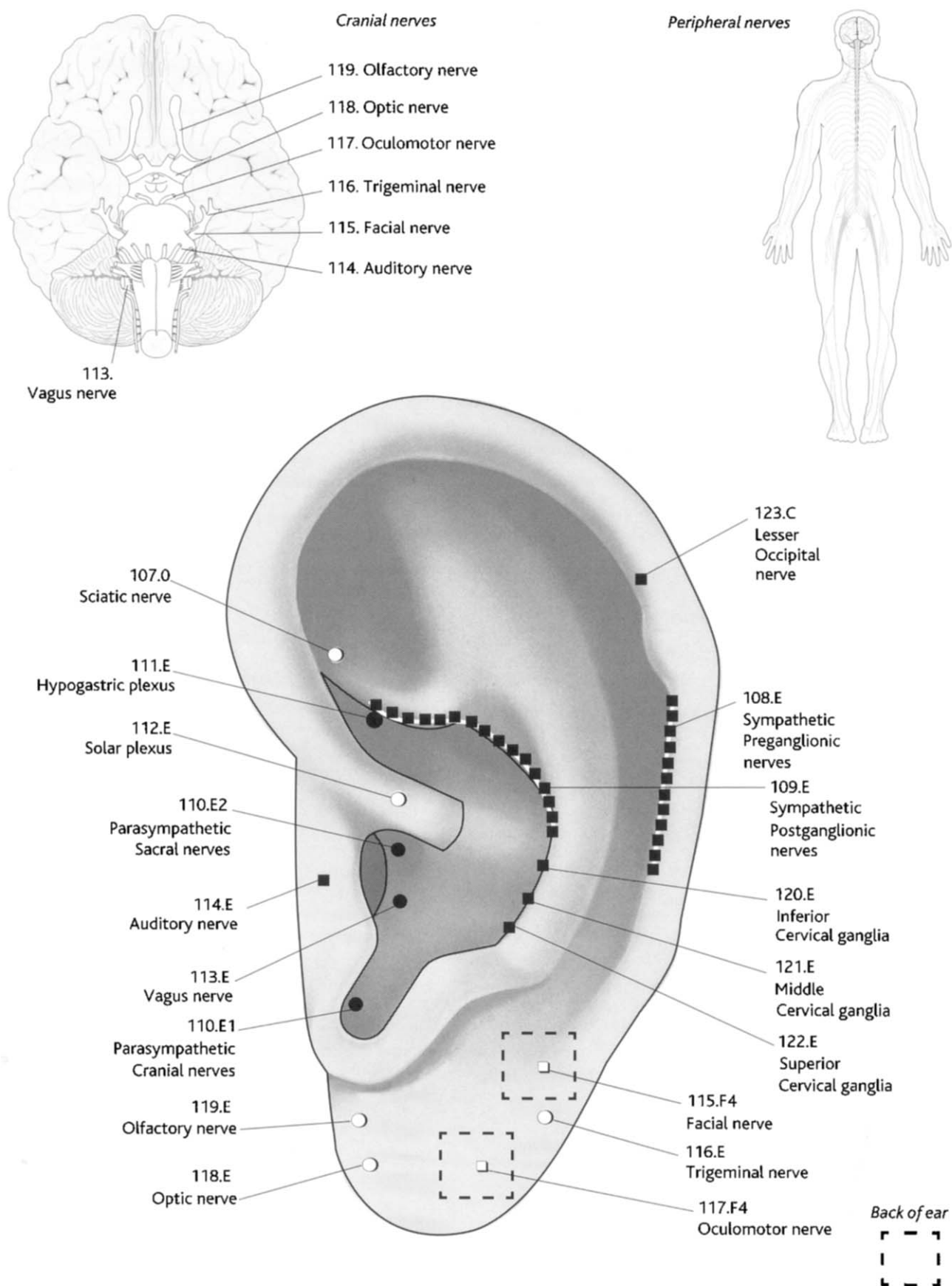


Figure 7.36 Surface view of the peripheral nervous system represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.5.3 Spinal cord and brainstem represented on the helix tail and lobe

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
124.E	Lumbosacral Spinal Cord <i>Location:</i> Superior helix tail, below Darwin's tubercle, LM 4. <i>Function:</i> The anterior side of helix tail represents the sensory dorsal horn cells of the lumbosacral spinal cord, whereas posterior side of helix tail represents motor ventral horn cells of the lumbosacral spinal cord. This point relieves peripheral neuralgias in the region of the lower limbs. It is also used effectively to treat patients who have neuralgic side effects from AIDS or cancer medication, or for diabetic patients with poor circulation to the feet.	[HX 12, PP 8]
125.E	Thoracic Spinal Cord <i>Location:</i> Helix tail, peripheral to the concha ridge and LM 0. <i>Function:</i> Anterior side affects sensory neurons of thoracic spinal cord, whereas the posterior side affects motor neurons of thoracic spinal cord. Relieves shingles, sunburns, poison oak or poison ivy on body or arms.	[HX 13, PP 6]
126.E	Cervical Spinal Cord <i>Location:</i> Inferior helix tail, above LM 5. <i>Function:</i> Relieves sunburned neck, neuralgias, shingles, poison oak on neck. The anterior side of the helix tail affects sensory cervical neurons, while the posterior side affects motor cervical neurons.	[HX 14, PP 4]
127.C	Brainstem (Medulla Oblongata) <i>Location:</i> Central side of concha wall, just below the base of antihelix, LM 14. <i>Function:</i> Affects body temperature, respiration, cardiac regulation, shock, meningitis, brain trauma, hypersensitivity to pain. This point tonifies the brain, invigorates the spirit, arrests epileptic convulsions, reduces overexcitement, abates fever and tranquilizes endopathic wind.	[CW 4]
127.E	Medulla Oblongata (Brainstem) <i>Location:</i> Inferior helix tail, between LM 5 and LM 6. <i>Function:</i> Affects body temperature, respiration, cardiac regulation.	[HX 15, PP 2]
128.E	Pons <i>Location:</i> Peripheral lobe. <i>Function:</i> Affects sleep and arousal, paradoxical REM sleep, emotionally reparative dreams, and relieves insomnia, disturbing dreams, dizziness and psychosomatic reactions.	[LO 7, PL 6]
129.E	Midbrain Tectum <i>Location:</i> Peripheral ear lobe. <i>Function:</i> The midbrain tectum includes the superior colliculus and inferior colliculus, which respectively affect subcortical reflexes for visual stimuli and auditory stimuli.	[LO 6]
130.E	Midbrain Tegmentum (Mesolimbic ventral tegmental area) <i>Location:</i> Peripheral ear lobe. <i>Function:</i> Midbrain tegmentum contains red nucleus and substantia nigra nuclei which affect extrapyramidal control of semivoluntary muscles and motor integration of voluntary movements. This point relieves Parkinsonian tremors, torticollis, writer's cramp.	[LO 5, PL 5]
131.E	Reticular Formation <i>Location:</i> Peripheral ear lobe at the base of the scaphoid fossa and inferior to the antitragus, and also is represented on the subtragus. <i>Function:</i> The reticular activating system (RAS) of the brainstem activates arousal, attention, alertness, vigilance, integration of nociceptive input, and affects brain laterality.	[LO 8, ST 3]
132.E	Trigeminal Nucleus <i>Location:</i> Peripheral ear lobe. <i>Function:</i> Relieves symptoms of trigeminal neuralgia, dental pain, facial tremors.	[LO 7, PL 5]

7.5.4 Subcortical brain nuclei represented on the concha wall and lobe

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
133.E	Red Nucleus <i>Location:</i> Superior region of ear lobe, below the peripheral antitragus. <i>Function:</i> Regulates semivoluntary acts and relieves extrapyramidal muscle tremors and spasms.	[LO 6, PL 6]
134.E	Substantia Nigra <i>Location:</i> Superior region of lobe, below the peripheral antitragus. <i>Function:</i> Regulates semivoluntary acts and relieves extrapyramidal muscle tremors and spasms.	[LO 6, PL 6]
135.E	Striatum (<i>Basal Ganglia, Extrapyramidal motor system</i>) <i>Location:</i> Superior region of ear lobe, below the medial antitragus. <i>Function:</i> Affects muscle tone, elaboration of automatic and semiautomatic movements, and inhibition of involuntary movements. Relieves Parkinsonian disease, tremors, spasms.	[LO 4, PL 4]
136.E	Anterior Hypothalamus <i>Location:</i> Inferior concha region near the intertragic notch. <i>Function:</i> Affects parasympathetic sedation, diuresis.	[IC 2]
137.E	Posterior Hypothalamus <i>Location:</i> Peripheral inferior concha, below the antitragus, near the Thalamus point. <i>Function:</i> Facilitates sympathetic arousal and relieves hypertension and cardiac acceleration. Affects secretion of adrenalin, vigilance, wakeful consciousness and decreases digestion.	[IC 5]
138.C	Brain (<i>Thalamic nuclei, Diencephalon, Central Rim</i>) <i>Location:</i> Upper edge of the concha wall, behind the occiput on antitragus external surface. <i>Function:</i> Alleviates deficiency of blood supply to the brain, cerebral concussion, restlessness, cerebellar ataxia, epilepsy, attention deficit disorder, hyperactivity, addictions, clinical depression, asthma, sleep disturbance and poor intellectual functioning. It also affects hypothalamic control of pituitary gland, endocrine glands, relieving glandular disturbances, irregular menstruation, sexual impotence, diabetes mellitus and pituitary tumors.	[CW 3]
138.E	Thalamic Nuclei (<i>Brain, Diencephalon</i>) <i>Location:</i> Concha wall behind the whole antitragus ridge, above the Thalamus point. <i>Function:</i> Affects all thalamic relay sensory connections to the posterior cerebral cortex.	[CW 1–CW 3]
139.E	Limbic System (<i>Rhinencephalon, Reactional Brain, Visceral Brain</i>) <i>Location:</i> Bottom of the junction of the ear lobe and the jaw, at LM 8. <i>Function:</i> Affects memory, amnesia, retention of lived-through emotional experiences, sexual arousal, aggressive impulses, compulsive behaviors.	[LO 1, PL 1]
140.E	Hippocampus (<i>Memory Brain, Fornix, Ammon's Horn</i>) <i>Location:</i> Superior ear lobe immediately inferior to the length of the antitragus. <i>Function:</i> This limbic nucleus affects memory, amnesia, retention of lived-through emotional experiences.	[LO 4, PL 6]

- 141.E **Amygdala Nucleus** (*Emotional Brain, Aggressivity point*) [LO 2]
Location: Notch on the superior lobe as it joins the peripheral intertragic notch.
Function: This limbic nucleus affects anger, irritability, excessive aggressiveness, mania, sexual compulsions, sexual dramas.
- 142.E **Septal Nucleus/Nucleus Accumbens** (*Sexual Brain, Pleasure Center*) [LO 2]
Location: Central ear lobe, just inferior to intertragic notch.
Function: This limbic nucleus affects pleasure, reinforcement, instinctive responses and seems to be the primary contributing brain region to substance abuse and addiction.
- 143.E **Cingulate Gyrus** (*Paleocortex*) [IT 1]
Location: Central intertragic notch.
Function: This limbic nucleus affects memory and emotions.

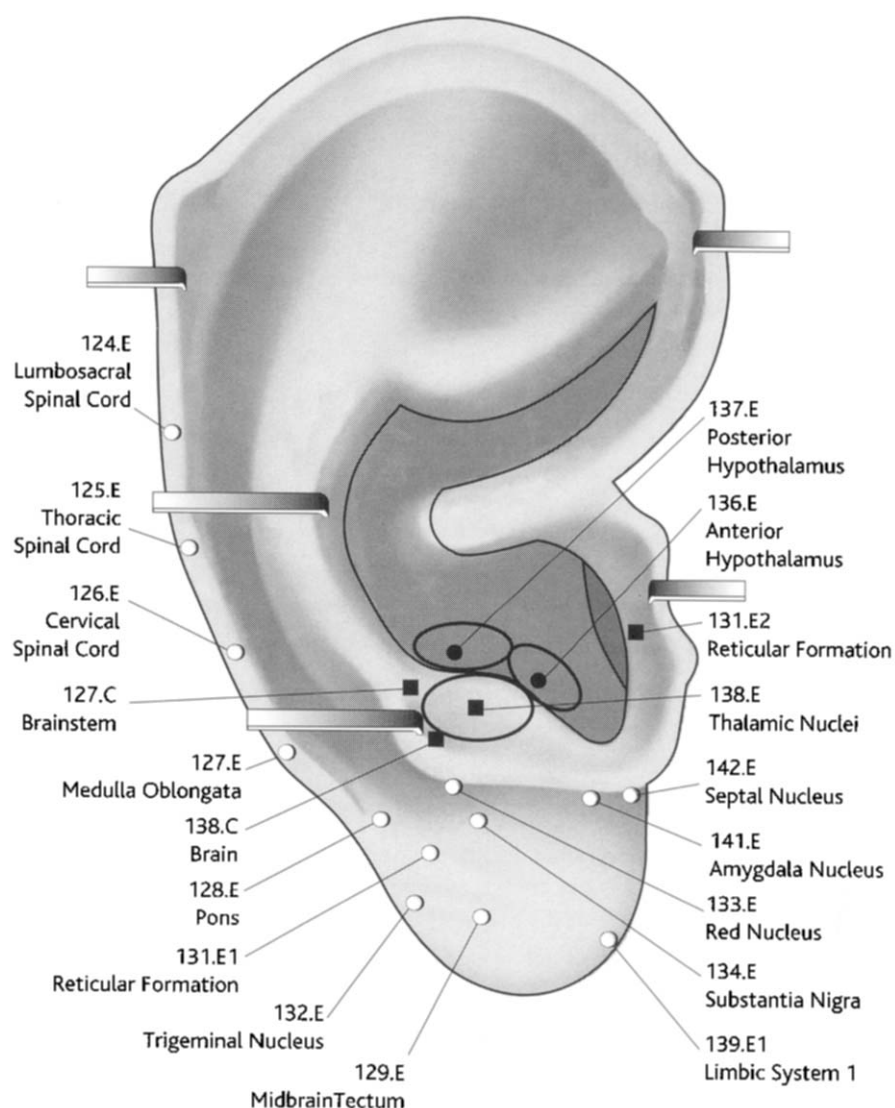


Figure 7.37 Hidden view of the subcortical central nervous system represented on the auricle. (From LifeART[®], Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

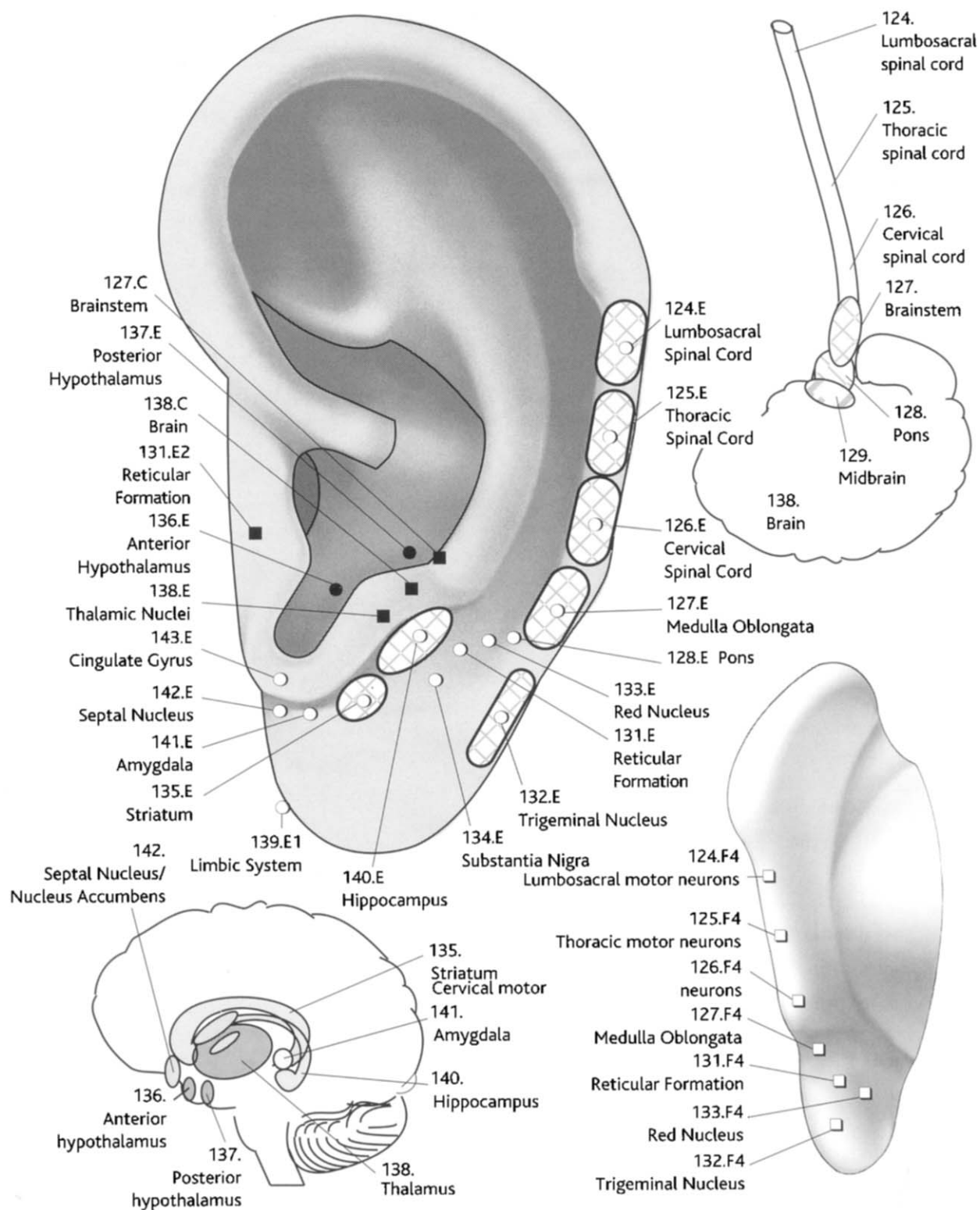


Figure 7.38 Surface view of the subcortical central nervous system represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.5.5 Cerebral cortex represented on the ear lobe

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
144.E	Olfactory Bulb <i>Location:</i> Central ear lobe as it meets the face, midway between LM 8 and LM 9. <i>Function:</i> Affects sense of smell.	[LO 2]
145.E	Cerebellum <i>Location:</i> Inferior antihelix tail and the posterior lobe. <i>Function:</i> Affects motor coordination and postural tonus. Relieves intentional tremors, spasms, semiautomatic movements, coordination of axial movements, postural tonus, perfection of intentional, cortical movements, vertigo, vestibular equilibrium and clinical depression.	[AH 1, PL 4]
146.E	Corpus Callosum <i>Location:</i> Whole length of vertically ascending tragus. <i>Function:</i> Affects brain laterality of left and right cerebral hemispheres. The interactions between the two sides of the brain are represented on the tragus in an inverted pattern. The callosal radiations to the frontal cortex are projected onto the inferior tragus, near LM 9; the temporal–occipital cortex radiations are projected onto the middle of the tragus, between LM 10 and LM 11; the parietal cortex radiations are projected onto the superior tragus. The tragus also represents the anterior Conception Vessel (Ren mai channel) and posterior Governing Vessel (Du mai channel) in an inverted position, the head down toward TG 1 and the base of the body up toward TG 5. Cerebral laterality The left ear in a right-handed person represents the logical, linguistic, left cerebral cortex and the right ear represents the rhythmic, artistic right cerebral hemisphere. These representations are reversed in some left handed individuals and in patients with oscillation problems. Thus an oscillator would have the left cerebral cortex projected onto the right ear and the right cerebral cortex represented on the left ear. The left hemisphere controls the right side of the body, is more conscious, draws logical conclusions, analyzes specific details, understands the verbal content of language and can rationally solve mathematics problems. The right hemisphere controls the left side of the body, tends to operate unconsciously, perceives the world with global impressions, and holds emotional memories more strongly.	[TG 1–TG 5]
147.E	Occipital Cortex (<i>Occipital Lobe, Visual Cortex</i>) <i>Location:</i> Peripheral antitragus and the ear lobe below it. <i>Function:</i> Affects visual neurological disorders, blindness, visual distortions.	[AT 3, LO 8]
148.E	Temporal Cortex (<i>Acoustic Line, Temporal Lobe, Auditory Cortex</i>) <i>Location:</i> Peripheral ear lobe. <i>Function:</i> Affects auditory disorders, musical tone discriminations, auditory impairment, deafness.	[LO 6, LO 8]
149.E	Parietal Cortex (<i>Postcentral Gyrus, Parietal Lobe, Somatosensory Cortex</i>) <i>Location:</i> Middle of ear lobe. <i>Function:</i> Affects tactile paresthesia, musculoskeletal pain and somesthetic strokes.	[LO 5, LO 6]
150.E	Frontal Cortex (<i>Precentral Gyrus, Frontal Lobe, Pyramidal Motor System</i>) <i>Location:</i> Central ear lobe. <i>Function:</i> Initiates motor action. Relieves motor paralysis, alters muscle tonus.	[LO 3, PL 3]
151.E	Prefrontal Cortex (<i>Master Cerebral point</i>) <i>Location:</i> Central ear lobe as it joins face. <i>Function:</i> Initiates decision making. Relieves poor concentration, obsessions, worry.	[LO 1, PL 1]

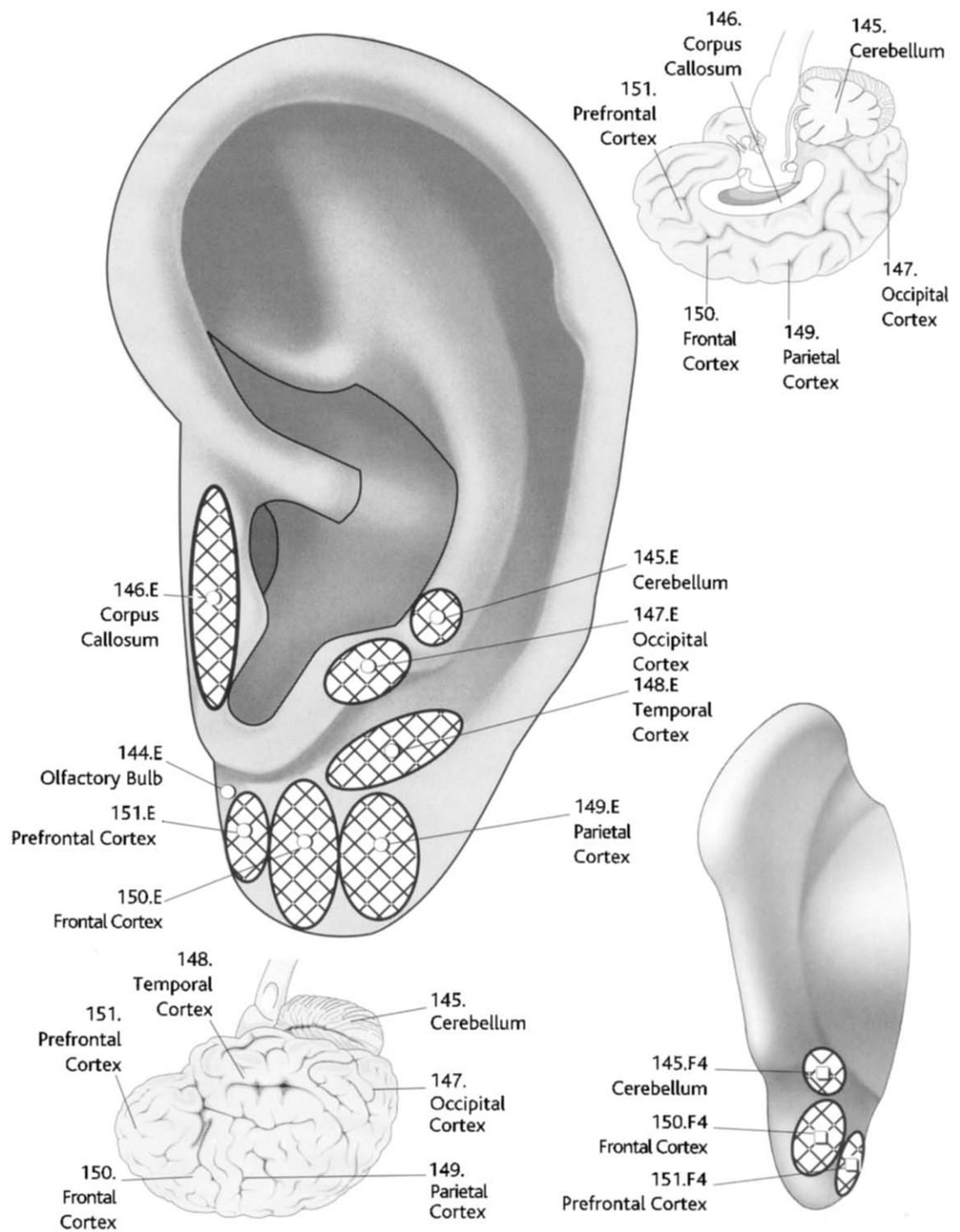


Figure 7.39 Surface view of the cortical central nervous system represented on the auricle. (From LifeART®, Super Anatomy, © Lippincott Williams & Wilkins, with permission.)

7.6 Auricular representation of functional conditions

7.6.1 Primary Chinese functional points represented on the ear

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
152.C	Asthma (<i>Ping Chuan</i>) <i>Location:</i> Apex of the antitragus, at LM 13. <i>Function:</i> Relieves symptoms of asthma, bronchitis, coughs, difficulty breathing, itching.	[AT 2]
153.C	Antihistamine <i>Location:</i> Middle of the triangular fossa, near the European Knee point. <i>Function:</i> Relieves symptoms of colds, allergies, asthma, bronchitis, coughs.	[TF 4]
154.C	Constipation <i>Location:</i> Inferior triangular fossa, superior to LM 17 on the antihelix inferior crus. <i>Function:</i> Relieves constipation, indigestion.	[TF 3]
155.C1	Hepatitis 1 <i>Location:</i> Superior aspects of the triangular fossa as it curves up to the antihelix superior crus. <i>Function:</i> Reduces liver dysfunctions, liver inflammations.	[TF 4]
155.C2	Hepatitis 2 (<i>Hepatomeglia, Cirrhosis</i>) <i>Location:</i> Peripheral inferior concha, at the Liver point.	[IC 5]
156.C1	Hypertension 1 (<i>Depressing point, Lowering Blood Pressure point</i>) <i>Location:</i> Central, superior triangular fossa, near the European points for the Toes. <i>Function:</i> Reduces high blood pressure, induces relaxation.	[TF 3]
156.C2	Hypertension 2 (<i>High Blood Pressure point</i>) <i>Location:</i> Inferior tragus, at the Tranquilizer point.	[TG 2]
156.C3	Hypertension 3 (<i>Hypertensive groove</i>) <i>Location:</i> Superior region of the posterior groove, behind the upper antihelix body.	[PG 4 & PG 8]
157.C	Hypotension (<i>Raising Blood Pressure point</i>) <i>Location:</i> Central intertragic notch, between Eye Disorders Mu 1 and Eye Disorders Mu 2. <i>Function:</i> Elevates abnormally low blood pressure.	[IT 1]
158.C	Lumbago (<i>Lumbodynia, Coxalgia</i>) <i>Location:</i> Middle of antihelix body. <i>Function:</i> Relieves the functional or psychosomatic aspects of low back pain.	[AH 11]
159.C	Muscle Relaxation <i>Location:</i> Peripheral inferior concha, near the Chinese Spleen point and the Liver points. <i>Function:</i> This point is one of the most clinically effective points on the auricle for reducing muscle tension, with almost the status of a master point because it is used so often to reduce pain and stress.	[IC 7/IC 8]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
160.C	San Jiao (<i>Triple Warmer, Triple Heater, Triple Burner, Triple Energizer</i>) <i>Location:</i> Inferior concha, near the Pituitary Gland point, the gland which regulates antidiuretic hormone that controls fluid levels released in urine. <i>Function:</i> Affects diseases of the internal organs and the endocrine glands. Affects the circulatory system, respiratory system, and thermoregulation. It relieves indigestion, shortness of breath, anemia, hepatitis, abdominal distension, constipation and edema. San Jiao regulates water circulation and fluid distribution related to the lower jiao, middle jiao, and upper jiao.	[IC 1]
161.C	Appetite Control (<i>Hunger point, Weight Control</i>) <i>Location:</i> Middle of tragus, between LM 10 and LM 11. <i>Function:</i> Diminishes appetite, nervous over-eating, overweight disorders, hyperthyroidism and hypertension. This ear point can be very effectively combined with stimulation of the Stomach point for reduction of the food cravings that may accompany commitment to a diet plan and exercise program. However, it does not replace the need for willpower to maintain commitment to a comprehensive weight reduction program.	[TG 3]
162.C	Thirst point <i>Location:</i> Tragus, just medial and inferior to the superior tragus protrusion, LM 11. <i>Function:</i> Diminishes excessive thirst related to diabetes insipidus and diabetes mellitus. In TCM, it nourishes yin and promotes the production of body fluids to reduce thirst.	[TG 4]
163.C	Alcoholic point (<i>Drunk point</i>) <i>Location:</i> Superior concha, between the Small Intestines point and the Chinese Kidney point. <i>Function:</i> Relieves hangovers, assists treatment of alcoholism. Just as the Appetite Control point can only facilitate but not overrule the effects of willpower for weight reduction, this Alcoholic point can only facilitate but not override conscious volition. An alcoholic patient must commit to a life of sobriety and some type of support and empowerment group, such as a 12-step program.	[SC 2]
164.C	Nervousness (<i>Neurasthenia, Master Cerebral point</i>) <i>Location:</i> Central ear lobe, near LM 8 and the Master Cerebral point. <i>Function:</i> Relieves anxiety, worry, neurosis, neurasthenia.	[LO 1]
165.C	Excitement point <i>Location:</i> Concha wall below the apex of antitragus and above the Thalamus point. <i>Function:</i> This point induces excitation of the cerebral cortex to relieve drowsiness, lethargy, depression, hypogonadism, sexual impairment, impotency, and obesity.	[CW 2]

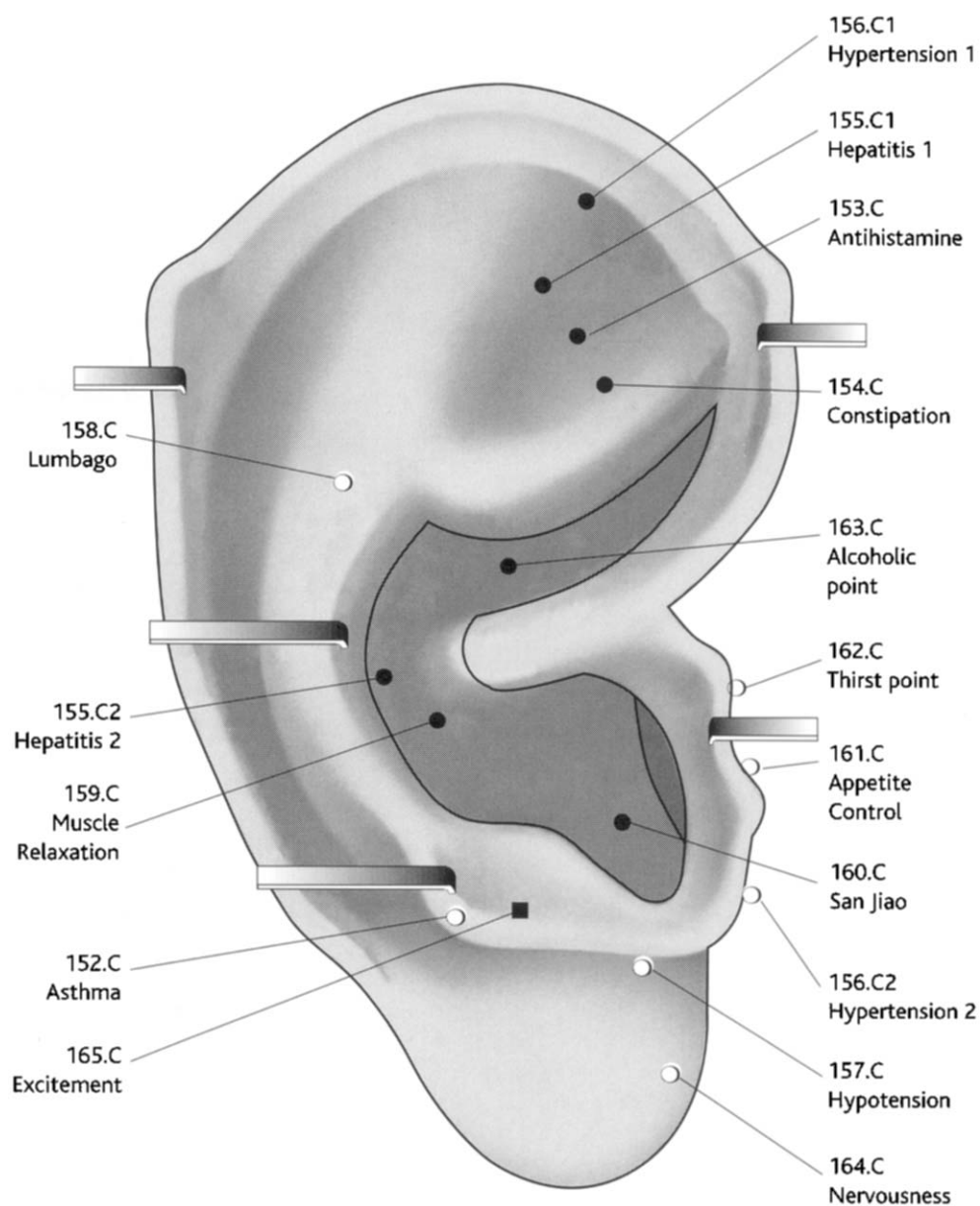


Figure 7.40 Hidden view of primary Chinese functional conditions represented on the auricle.

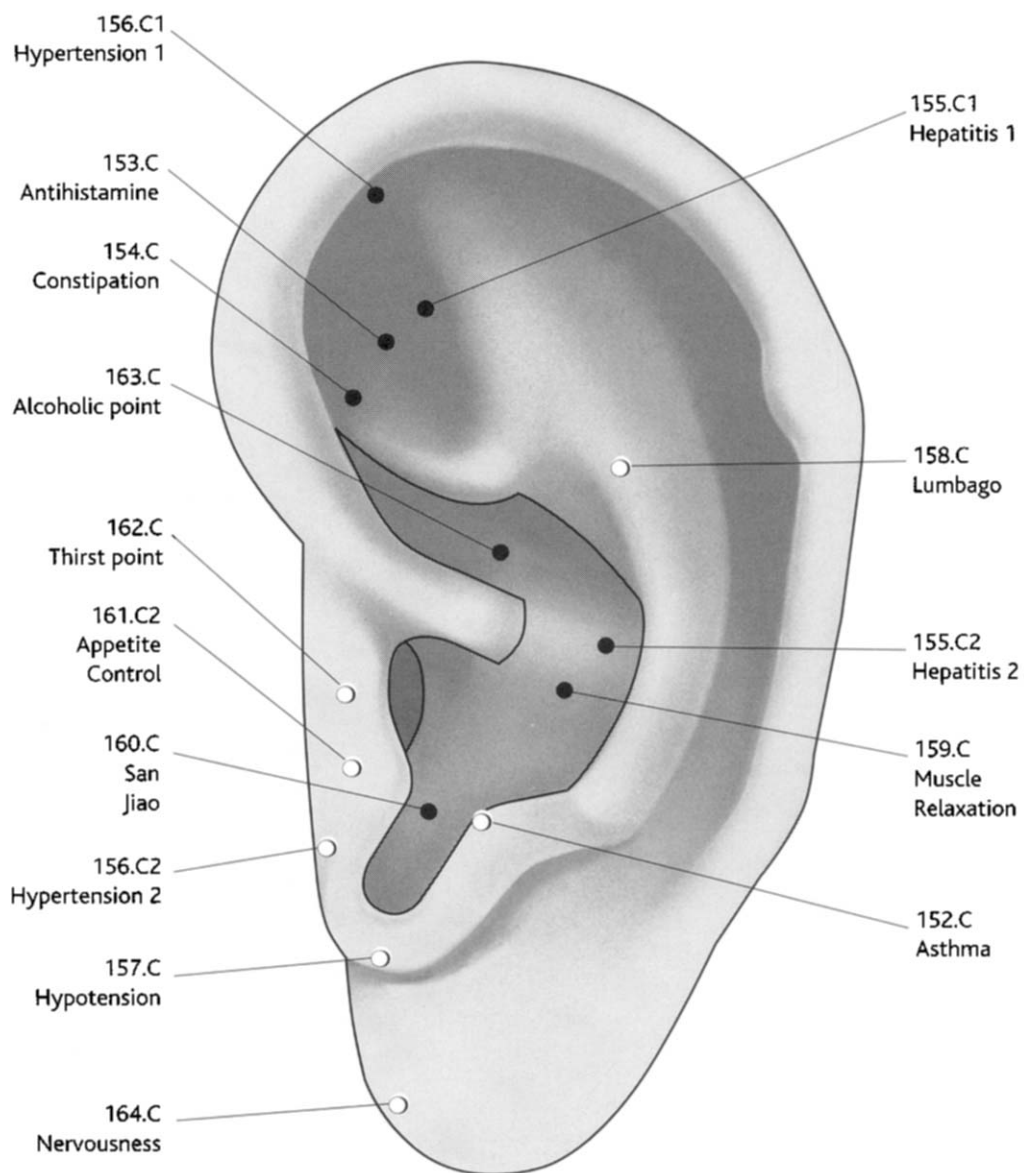


Figure 7.41 Surface view of primary Chinese functional conditions represented on the auricle.

7.6.2 Secondary Chinese functional points represented on the ear

Secondary functional points are only distinguished from the primary functional points by being less commonly used as the primary ear reflex points. Even this distinction is not completely accurate, as more recent clinical work by the Chinese has emphasized the use of particular secondary ear reflex points like Wind Stream and Central Rim.

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
166.C	Tuberculosis <i>Location:</i> Inferior concha, at center of the Lung point region. <i>Function:</i> Relieves tuberculosis, pneumonia, breathing difficulties.	[IC 5]
167.C	Bronchitis <i>Location:</i> Inferior concha, at the Bronchi point, inward from the Lung point region. <i>Function:</i> Relieves bronchitis, pneumonia, breathing difficulties.	[IC 7]
168.C	Heat point <i>Location:</i> Antihelix body, at the junction of the inferior and superior crus. <i>Function:</i> Produces peripheral vasodilation, reducing vascular inflammation and sensation of being warm or feverish. It is used for acute strains, low back pain, Raynaud's disease and phlebitis.	[AH 11]
169.C	Cirrhosis <i>Location:</i> Peripheral concha ridge, within the Liver point region. <i>Function:</i> Relieves cirrhosis damage to the liver and hepatomeglia.	[CR 2]
170.C	Pancreatitis <i>Location:</i> Peripheral superior concha, within the Pancreas point region. <i>Function:</i> Relieves inflammation and deficiencies of the pancreas, diabetes, indigestion.	[SC 7]
171.C	Nephritis <i>Location:</i> Inferior helix tail as it meets the gutter of the scaphoid fossa, near LM 5. <i>Function:</i> Reduces kidney inflammations.	[HX 15]
172.C	Ascites point <i>Location:</i> Superior concha, between the Duodenum point and Chinese Kidney point. <i>Function:</i> Reduces excess abdominal fluid, cirrhosis, flatulence.	[SC 6]
173.C	Mutism (<i>Dumb point</i>) <i>Location:</i> Underside of subtragus, superior to the Inner Nose point. <i>Function:</i> Used to assist problems with speaking clearly or with stuttering.	[ST 3]
174.C1	Hemorrhoids 1 <i>Location:</i> Underside of the internal helix, near the European Kidney point. <i>Function:</i> Alleviates hemorrhoids.	[IH 5]
174.C2	Hemorrhoids 2 <i>Location:</i> Central superior concha, near the Chinese Prostate point.	[SC 4]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
175.C	Wind Stream (<i>Lesser Occipital nerve, Minor Occipital nerve</i>) <i>Location:</i> Peripheral internal helix as it joins superior scaphoid fossa. This ear reflex point was previously referred to in Chinese texts as the Minor Occipital nerve. <i>Function:</i> Alleviates allergies, bronchial asthma, allergic rhinitis, coughs, dermatitis, urticaria, and allergic constitutions. This point is utilized in Chinese ear acupuncture treatments to reduce the effects of pathogenic wind.	[IH 10]
176.C	Central Rim (<i>Chinese Brain point</i>) <i>Location:</i> Portion of concha wall below the junction of the antihelix tail and the antitragus. This ear reflex point was previously referred to in Chinese texts as the Brain point or Brainstem point. <i>Function:</i> Alleviates basic metabolic symptoms of stress, neurological problems, and addiction disorders. In TCM, it replenishes spleen qi and kidney qi, nourishes the brain, and tranquilizes the mind.	[CW 3]
177.C	Apex of Tragus <i>Location:</i> Tragus superior protrusion, at LM 11. <i>Function:</i> Reduces inflammation, fever, swelling, arthritic pain. It has analgesic, antipyretic, and anti-inflammatory properties.	[TG 5]
178.C	Apex of Antitragus <i>Location:</i> Antitragus superior protrusion, at LM 13. <i>Function:</i> Reduces inflammation, fever, swelling.	[AT 2]
179.C	Apex of Ear (<i>Tip of Ear, Ear Apex, Apex of Auricle</i>) <i>Location:</i> Top of the superior helix, at LM 2. <i>Function:</i> Antipyretic point to reduce inflammation, fever, swelling, and blood pressure. This point is often used for blood-letting by pricking the top of the ear to reduce fever, blood pressure, inflammation, delirium, and acute pain. This point has analgesic, antipyretic, and anti-inflammatory properties. In TCM, this point clears away heat and toxic substances, calms liver qi and reduces wind.	[HX 7]
180.C1	Helix 1 (<i>Helix points</i>) <i>Location:</i> Peripheral helix, at Darwin's tubercle, between LM 3 and LM 4. <i>Function:</i> Antipyretic point to reduce inflammation, fever, swelling, blood pressure (same function for all Helix points).	[HX 11]
180.C2	Helix 2 <i>Location:</i> Helix tail, within the region of the Lumbosacral Spinal Cord.	[HX 13]
180.C3	Helix 3 <i>Location:</i> Helix tail, within the region of the Cervical Spinal Cord.	[HX 14]
180.C4	Helix 4 <i>Location:</i> Helix tail, where the helix meets the lobe at LM 6, superior to the Chinese Tonsil 3 point.	[HX 14]
180.C5	Helix 5 <i>Location:</i> Peripheral ear lobe, midway between LM 6 and LM 7.	[LO 7]
180.C6	Helix 6 <i>Location:</i> Bottom of the ear lobe, at LM 7, inferior to the Chinese Tonsil 4 point.	[LO 3]

Important ear points: The most commonly used Chinese functional points are Muscle Relaxation point, Appetite Control point, Brain (Central Rim), and Wind Stream (Lesser Occipital nerve). The Nervousness point is identical to the Master Cerebral point and the Hypertension 2 point overlaps the Tranquilizer point.

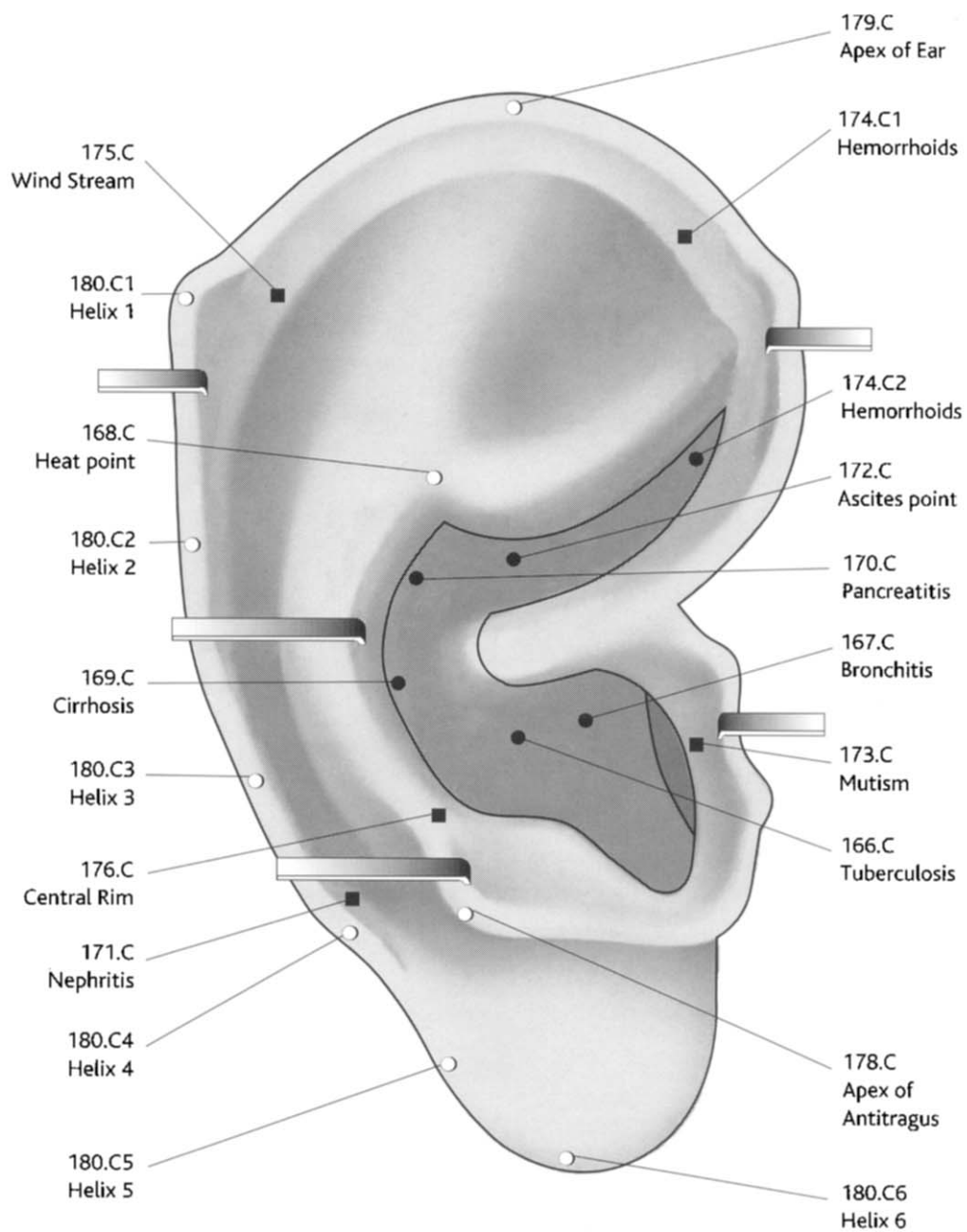


Figure 7.42 Hidden view of secondary Chinese functional conditions represented on the auricle.

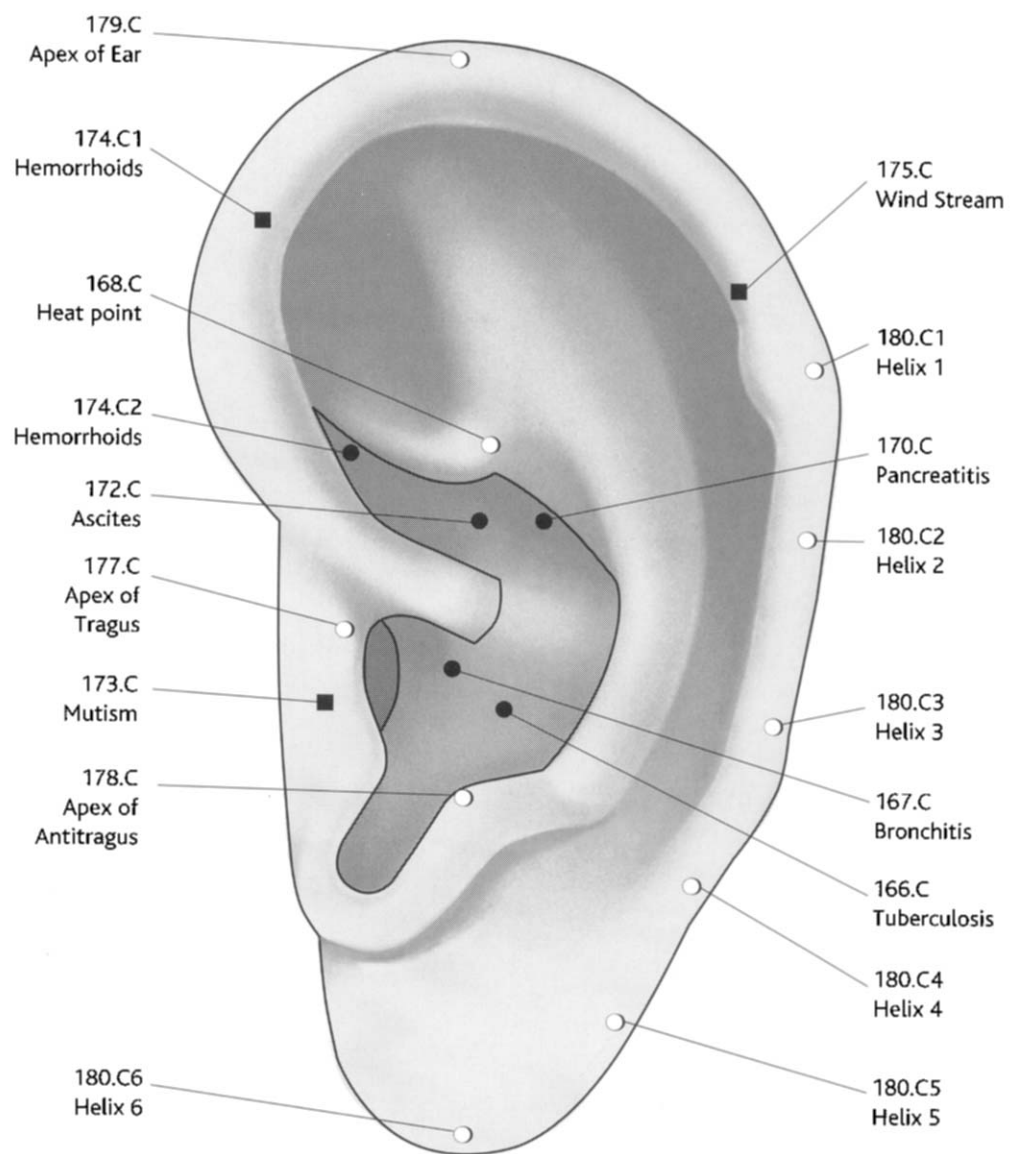


Figure 7.43 Surface view of secondary Chinese functional conditions represented on the auricle.

7.6.3 Primary European functional points represented on the ear

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
181.E	Auditory Line <i>Location:</i> A horizontal line on the ear lobe, inferior to the antitragus, in the auricular region that corresponds to the auditory cortex of the temporal lobe. There is second auditory line on the neck, below the ear lobe. <i>Function:</i> The auditory line represents the auditory cortex on the temporal lobe, with stimulation of high frequency sounds more present on the central part of this line and representation of low frequency sounds more present on the peripheral part of this line. It is used to relieve deafness, tinnitus and other hearing disorders.	[LO 6]
182.E1	Aggressivity 1 (<i>Aggression Control, Anti-aggressivity, Irritability</i>) <i>Location:</i> Notch at the junction of the medial antitragus and medial ear lobe. It is located at same auricular region as the limbic Amygdala Nucleus which regulates aggressive behaviors. <i>Function:</i> Reduces irritability, aggression, frustration, rage, mania and drug withdrawal.	[LO 2]
182.E2	Aggressivity 2 <i>Location:</i> Superior tragus.	[TG 5]
182.E3	Aggressivity 3 <i>Location:</i> Inferior concha next to concha wall region behind the antitragus.	[IC 2]
183.E1	Psychosomatic point 1 (<i>Psychotherapeutic point, Point R, Bourdiol point</i>) <i>Location:</i> Superior helix root, as it joins the face at LM 1. It is located near Chinese ear reflex point for External Genitals and external to the Autonomic point. <i>Function:</i> Alleviates psychological disorders, and can help psychotherapy patients remember long-forgotten memories and repressed emotional experiences. It also facilitates the occurrence of vivid intense dreams.	[HX 4]
183.E2	Psychosomatic point 2 <i>Location:</i> Inferior lobe as it joins the face, superior to LM 8, in region for the intellectual Prefrontal Cortex region of ear. It is also near Master Cerebral, Neurasthenia, and Nervousness.	[LO 1]
184.E	Sexual Desire (<i>Bosch point, Libido point</i>) <i>Location:</i> Helix root as it joins the superior edge of tragus, at the European ear point for the External Genitals, Penis and Clitoris. <i>Function:</i> Increases libido, enhances sexual arousal.	[HX 1]
185.E	Sexual Compulsion (<i>Jerome point, Sexual Suppression</i>) <i>Location:</i> Helix tail as it joins the ear lobe, near LM 5, at the European Medulla Oblongata. <i>Function:</i> Lowers libido, calms sexuality, alleviates insomnia.	[HX 15]
186.E	Master Omega (<i>Master Cerebral point, Psychosomatic point, Worry point, Angst</i>) <i>Location:</i> Inferior ear lobe near the face, superior to LM 8. It is the same point as the European Master Cerebral point and the Chinese Nervousness or Neurasthenia points. It is in the region of the ear reflex point for the Prefrontal Cortex. A vertical line can be drawn between this Master Omega point and the functional points Omega 1 and Omega 2. <i>Function:</i> Affects psychological stress, such as obsessive-compulsive disorders, fear, worry, ruminating thoughts, angst, psychosomatic disorders and general analgesia.	[LO 1]

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
187.E	Omega 1 <i>Location:</i> Superior concha, central to the Small Intestines point. <i>Function:</i> Affects vegetative stress, such as digestive disorders and visceral pain.	[SC 2]
188.E	Omega 2 <i>Location:</i> Superior helix, central to the Allergy point at LM 2. <i>Function:</i> Affects somatic stress, reducing rheumatoid arthritis, inflammations of the limbs.	[HX 6]
189.E	Marvelous point (<i>Wonderful point, Middle Cervical plexus</i>) <i>Location:</i> Peripheral concha ridge, in region of the Liver point. <i>Function:</i> Balances excessive sympathetic arousal, reduces hypertension. Affects blood vascular regulation, relieves muscle tension.	[CR 2/CW 4]
190.E	Antidepressant point (<i>Cheerfulness, Joy point</i>) <i>Location:</i> Peripheral ear lobe, below the peripheral antitragus and below the Occiput point. <i>Function:</i> Relieves endogenous depression, reactive depression and dysphoric mood.	[LO 8]
191.E	Mania point <i>Location:</i> Inferior tragus edge that lies above the inferior concha, between LM 9 and LM 10. <i>Function:</i> Relieves hyperactive manic behavior that often accompanies addictions.	[TG 1]
192.E	Nicotine point <i>Location:</i> Inferior tragus edge that is over the concha, superior to the Mania point and inferior to the Chinese Adrenal Gland point. <i>Function:</i> Used to reduce nicotine craving in persons withdrawing from smoking.	[TG 2]
193.E	Vitality point <i>Location:</i> Superior tragus, central to LM 11. <i>Function:</i> Affects immune system disorders, AIDS, cancer.	[TG 2]
194.E	Alertness point <i>Location:</i> Helix tail, below the Darwin's tubercle, near LM 4. <i>Function:</i> Induces arousal, activation, alertness.	[HX 12]
195.E1	Insomnia 1 (<i>Sleep point</i>) <i>Location:</i> Superior scaphoid fossa, near the Wrist point. <i>Function:</i> Relieves insomnia, nervousness, depression.	[SF 4]
195.E2	Insomnia 2 (<i>Sleep point</i>) <i>Location:</i> Inferior scaphoid fossa, near Master Shoulder point. <i>Function:</i> Relieves insomnia, sleep difficulties, nervous dreams, inability to dream.	[SF 1]
196.E	Dizziness (<i>Vertigo</i>) <i>Location:</i> Concha wall, below the Occiput and Cervical Spine points. <i>Function:</i> Relieves dizziness, vertigo.	[CW 3]

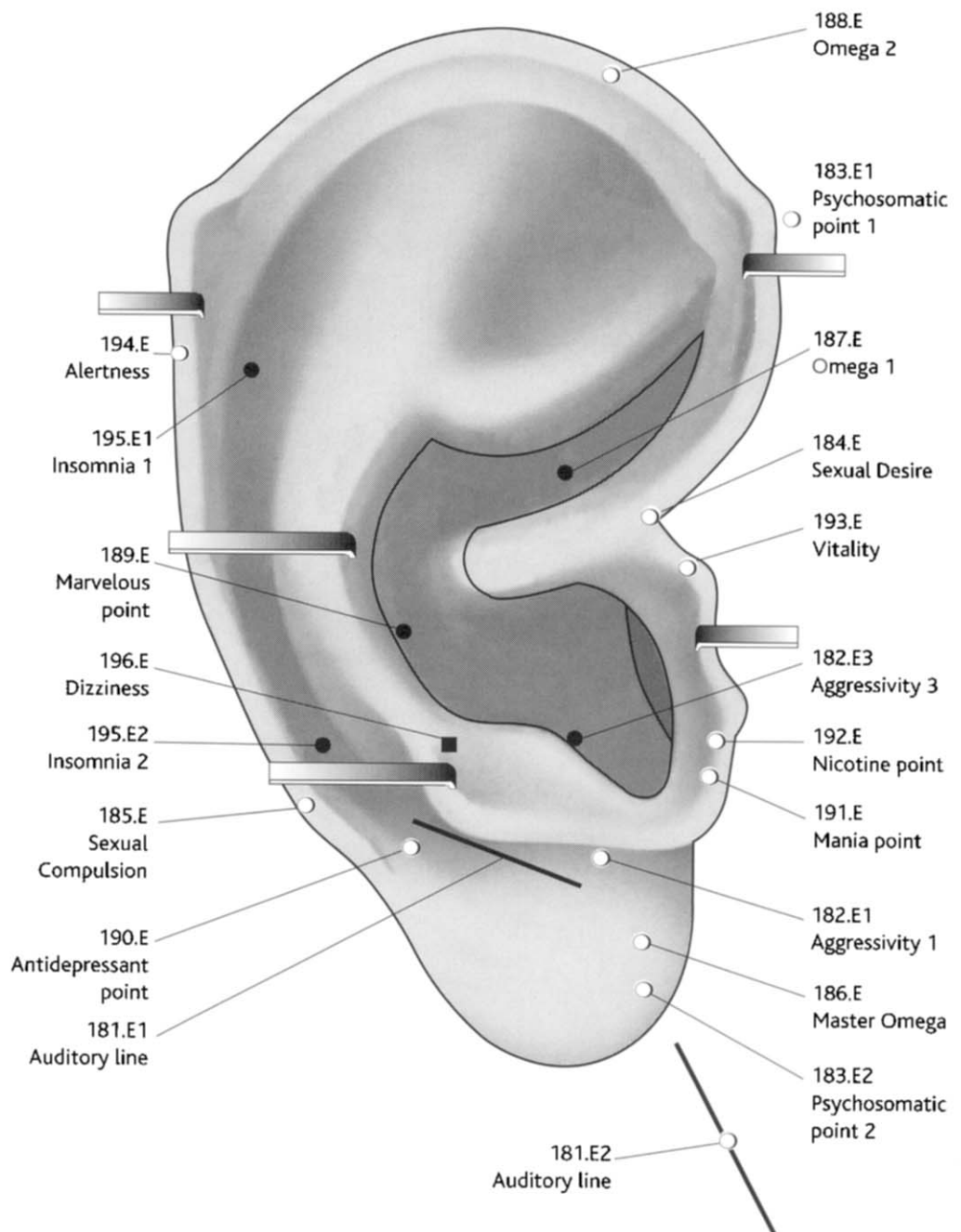


Figure 7.44 Hidden view of primary European functional conditions represented on the auricle.

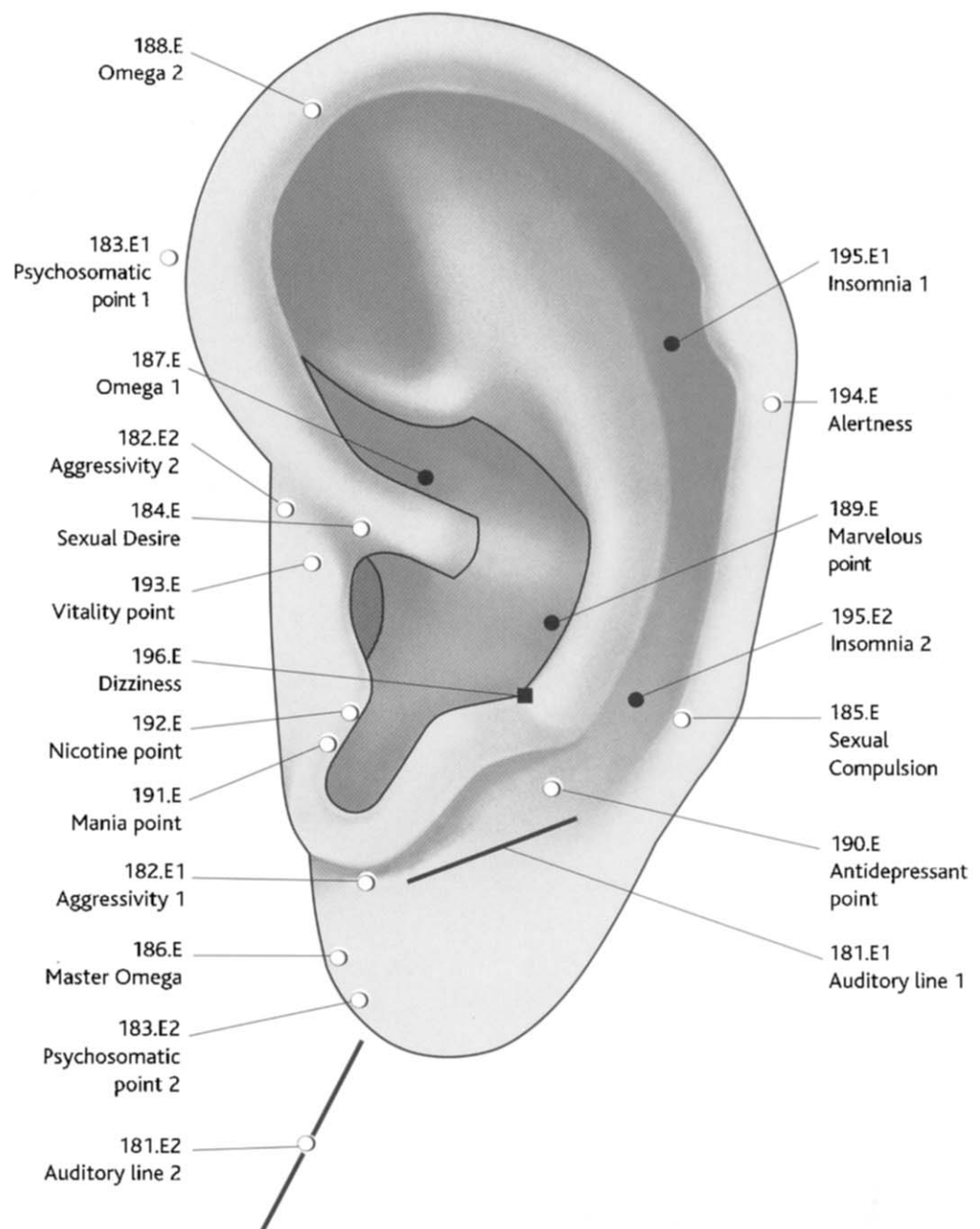


Figure 7.45 Surface view of primary European functional conditions represented on the auricle.

7.6.4 Secondary European functional points represented on the ear

As with the Chinese secondary functional points, the European secondary functional points are distinguished from the European primary functional points only because they are not as commonly used.

No.	Auricular microsystem point (<i>Alternative name</i>)	[Auricular zone]
197.E	Sneezing point <i>Location:</i> Peripheral ear lobe, near the location for European Trigeminal Nucleus point. <i>Function:</i> Reduces sneezing, allergies.	[LO 5]
198.E	Weather point <i>Location:</i> Helix root, superior to the Chinese Rectum point and above the European Prostate point. <i>Function:</i> Alleviates any symptoms due to changes in weather.	[HX 3]
199.E	Laterality point <i>Location:</i> Sideburns area of the face, central to LM 10. <i>Function:</i> Facilitates balance of left and right cerebral hemispheres, reduces oscillation.	[Face]
200.E	Darwin's point (<i>Bodily Defense</i>) <i>Location:</i> Darwin's tubercle on the peripheral helix, between LM 3 and LM 4. <i>Function:</i> Relieves all types of pain in the lower back and lower limbs since it represents the spinal cord.	[HX 11]
201.E	Master point for Lower Limbs <i>Location:</i> Helix root, above the European External Genitals point. <i>Function:</i> Relieves pain and swelling in legs and feet.	[HX 2]
202.E	Master point for Upper Limbs <i>Location:</i> Helix tail, in the region of the European Medulla Oblongata. <i>Function:</i> Relieves pain and swelling in arms, hands, and fingers.	[HX 15]
203.E	Master point for Ectodermal Tissue <i>Location:</i> Intertragic notch, inferior to the Pineal Gland and Eye Disorders points. <i>Function:</i> Affects treatment of ectodermal tissue of skin and nervous system.	[IT 1]
204.E	Master point for Mesodermal Tissue <i>Location:</i> Internal helix, near the European Kidney and Ureter points. <i>Function:</i> Affects treatment of musculoskeletal disorders.	[IH 4]
205.E	Master point for Endodermal Tissue <i>Location:</i> Internal helix, near the European Ovary and Testes points. <i>Function:</i> Affects treatment of internal organ and endocrine disorders.	[IH 1]
206.E	Master point for Metabolism <i>Location:</i> Peripheral ear lobe. <i>Function:</i> Affects treatment of any metabolic disorder.	[LO 7]

No.	Auricular microsystem point (Alternative name)	[Auricular zone]
207.E1	Prostaglandin 1 <i>Location:</i> Underside of ear lobe, where actual ear joins lower jaw. <i>Function:</i> Reduces inflammations and pain.	[LO 1]
207.E2	Prostaglandin 2 <i>Location:</i> Head, superior to the Apex of Ear and LM 2. <i>Function:</i> Reduces inflammations and pain.	[Head]
208.E	Vitamin C <i>Location:</i> Head, superior to the Apex of Ear and LM 2. <i>Function:</i> Relieves stress and symptoms of colds or flu.	[Head]
209.E	Vitamin E <i>Location:</i> Superior helix, peripheral to the Allergy point. <i>Function:</i> Used to amplify effects of taking Vitamin E.	[HX 9]
210.E	Vitamin A <i>Location:</i> Neck, inferior to the ear lobe. <i>Function:</i> Used to amplify effects of taking Vitamin A.	[Neck]
211.E	Mercury Toxicity <i>Location:</i> Superior concha, near the Bladder point. <i>Function:</i> Used to relieve effects of metal toxicity reactions.	[SC 6]
212.E	Analgesia <i>Location:</i> Superior concha, near the Duodenum point. <i>Function:</i> Used to facilitate pain relief for surgeries.	[SC 7]
213.E	Hypnotic <i>Location:</i> Helix tail, horizontally across from LM 0. <i>Function:</i> Used to tranquilize and sedate.	[HX 13]
214.E1	Memory 1 <i>Location:</i> Central ear lobe, in region of the Prefrontal Cortex point. <i>Function:</i> Facilitates improvement in memory and attention.	[LO 1]
214.E2	Memory 2 <i>Location:</i> Superior ear lobe, in region of the Hippocampus point. <i>Function:</i> Facilitates improvement in memory and attention.	[LO 4]
214.E3	Memory 3 <i>Location:</i> Posterior ear lobe, in region of the Prefrontal Cortex point. <i>Function:</i> Facilitates improvement in memory and attention.	[PL 2]

Important ear points: The most frequently utilized European functional points are Aggressivity 1, Psychosomatic Reactions 1, Antidepressant point, and Vitality point. Master Omega point is identical to Master Cerebral point.

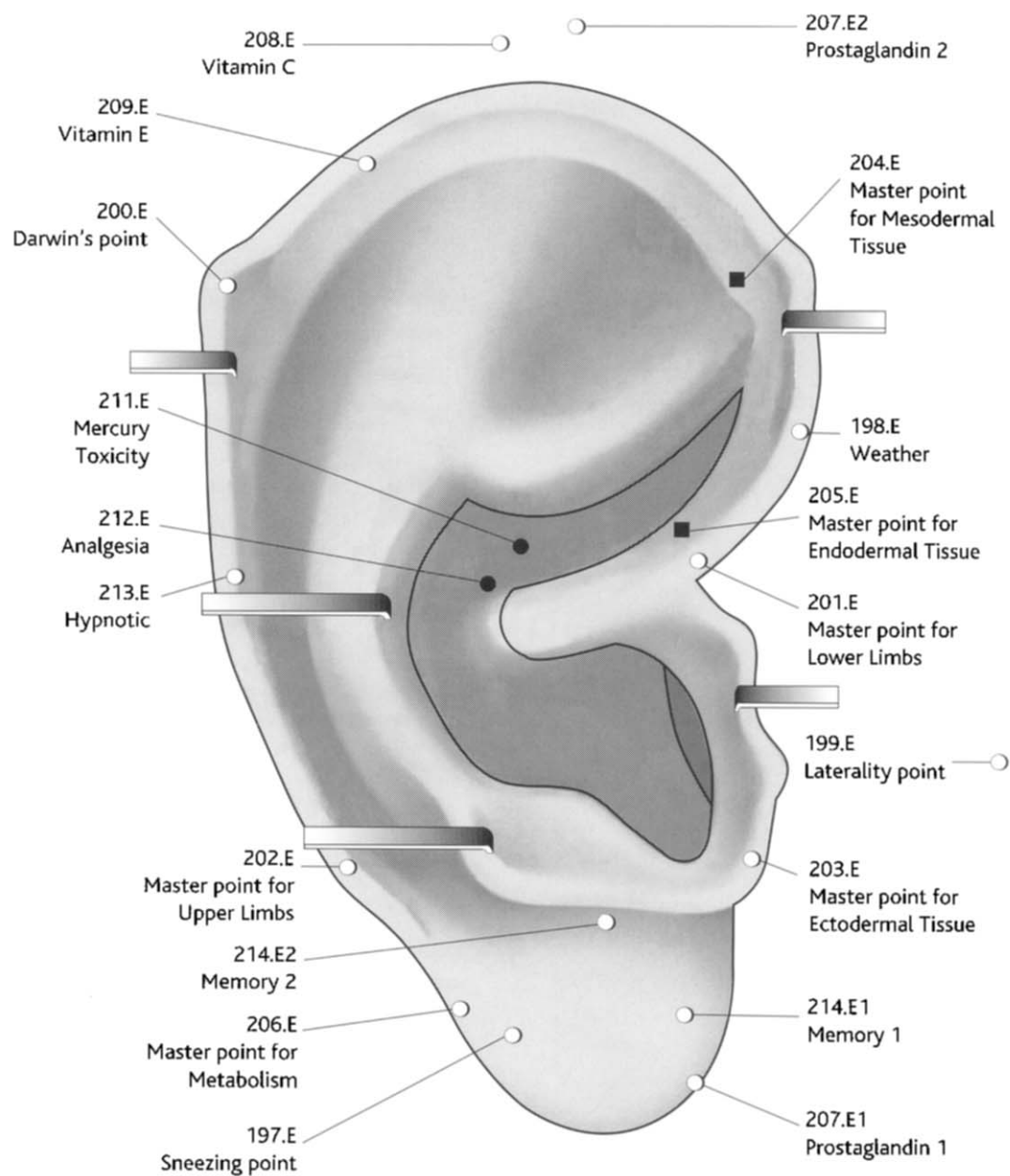


Figure 7.46 Hidden view of secondary European functional conditions represented on the auricle.

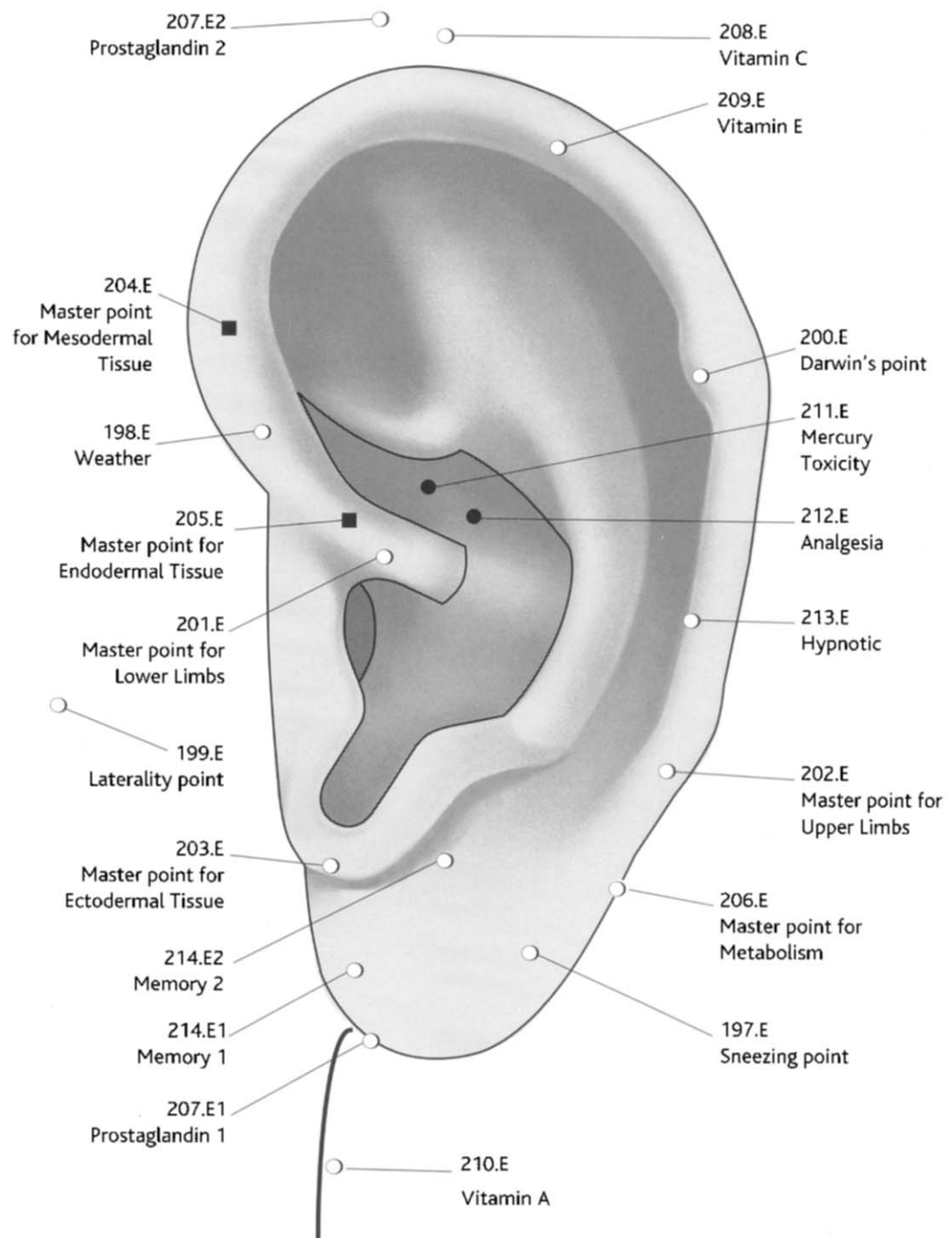


Figure 7.47 Surface view of secondary European functional conditions represented on the auricle.

Clinical case studies of auriculotherapy

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My personal experience with auriculotherapy began at the UCLA Pain Management Clinic in 1975. As a licensed psychologist working in an interdisciplinary pain clinic, I was often asked to see the chronic pain patients who had not benefited from previous trials of opiate medications, antidepressants, localized nerve blocks or trigger point injections. Clients were referred to me by other doctors in the UCLA Medical Center for biofeedback training or auriculotherapy. Biofeedback therapy allowed patients to learn to reduce their pathological muscle spasms and to improve vascular circulation. Patients were referred for auriculotherapy as a more direct procedure for immediately alleviating chronic pain. While licenced acupuncturists activate acupuncture points with the insertion of needles, my clinical practice with auriculotherapy has employed transcutaneous microcurrent stimulation of ear reflex points. Electronic equipment that was used at UCLA included the Stim Flex, the Acuscope, and the HMR stimulator. An electrical detecting probe is guided over specific regions of the auricle to identify reactive points and a button on the same bipolar probe is pressed to briefly stimulate the same ear points. There is no invasion of the skin with needles, so this approach tends to be less painful than other forms of auricular stimulation. I also worked with physicians, nurses, and acupuncturists who did insert needles into the ear.

When I was first learning auriculotherapy, it was very helpful to have a wall chart of ear acupuncture points immediately above the treatment table where patients were seen. Electronic equipment, acupuncture needles, or ear pellets were available on a nearby stand. While the inverted fetus concept facilitates an easy comprehension of which portions of the auricle relate to a particular patient's problem, and the auricular acupoints used in most treatment plans are quickly learned, it is useful to have a visual reminder of less frequently used ear points and their precise point location. It is not necessary for patients to lie on a treatment table, since they can be treated easily in an ordinary chair. It is best, however, for the practitioner to either stand or sit at eye level above the patient's ear. It is important that the practitioner's arm is not excessively strained when holding an electronic probe against the auricle or when inserting a needle. Comfort for the practitioner as well as the patient is important when seeing many patients.

The first several years of my practice of auriculotherapy required me to suspend my skepticism stemming from the lack of scientific explanations for this procedure. I would repeatedly see significant improvements in the health status of patients with previously intractable pain, but my internal disbelief remained. I was encouraged by reading the words of Nogier (1972), who stated that

any method should not be rejected out of hand merely because it remains unexplained and does not tie up with our present scientific knowledge. A discovery is rarely logical and often goes against the conceptions then in fashion. It is often the result of a basic observation which has been sufficiently clear and repeatable for it to be retained.

Nogier further commented that

the spinal column, like the limbs, is projected clearly and simply in the external ear. The therapeutic applications are free from ambiguity and ought to allow the beginner to achieve convincing results. Each doctor needs to be convinced of the efficacy of the method by personal results, and he is right.

I needed many observations of the clinical effectiveness of auriculotherapy before I was convinced.

These statements of Nogier reminded me of my readings in the biofeedback literature of the pioneering research on stress by Hans Selye. In his classic text, *The stress of life* (1976), Selye described the initial scientific opposition to his concept of a 'non-specific' factor that contributes to disease in addition to the 'specific' pathogens first discovered by Louis Pasteur. Selye related the story that one senior professor whom he admired 'reminded me that for months now he had attempted to convince me that I must abandon this futile line of research.' Fortunately, Selye persevered in his research and discovered that chronic stress leads to an enlargement of the adrenal glands, atrophy of the thymus glands and ulcers in the gastrointestinal tissue. These organic changes are now widely recognized as reliable indications of the biological response to a variety of non-specific stressors. Pasteur himself had to overcome considerable opposition to the germ theory postulate that invisible microorganisms could be the source of an illness. Many of Pasteur's colleagues scoffed at the supposed dangers of these invisible agents, but today, sterilization techniques in surgery and in acupuncture originate from Pasteur's proposals. Alternative theories and therapies often require patience and persistence before they become widely accepted by the medical profession as a whole.

In this section, I have incorporated my own clinical findings with that of other healthcare practitioners who treat auricular acupuncture points with needles or who use the Nogier vascular autonomic signal in diagnosis and treatment. I have endeavored to select cases that provide insight into the underlying processes affecting auriculotherapy as well as examples of typical clinical results one might expect from such treatments. The order of presentation of specific clinical cases will first focus on pain conditions related to internal organs, then upon myofascial pain disorders, and lastly will examine neuropathic pain problems. The use of auriculotherapy for addictions and other healthcare disorders will also be discussed. Finally, the results of clinical surveys conducted by skilled practitioners in this field will be presented to indicate which auriculotherapy treatment plans have been found to be the most effective for particular health conditions.

8.1 Relief of nausea

As Nogier suggested, what may be most persuasive for a beginning practitioner is the relief of a symptom that he himself has experienced. I had worked with Drs Richard Kroening and David Bresler at the UCLA Medical Center for many months conducting research on auricular diagnosis. I myself, however, had never received any auricular acupuncture treatment. At one of the first lecture presentations of our auricular diagnosis research, I had the first hand opportunity to assess the clinical effectiveness of ear acupuncture. I had eaten something for breakfast that began to greatly disagree with me. By the time the lecture was set to begin, the discomforting stomach sensations were getting worse. I told this to Dr Kroening, who noticed the unpleasant grimaces upon my face. He promptly pulled a sterilized needle out of the pocket of his lab coat and inserted it into the Stomach point on my left ear. To my unexpected surprise, the nausea in my stomach disappeared within one minute. Since the skeptical scientific side of my personality wondered whether this sudden relief of pain was simply a placebo effect, I removed the needle. The uncomfortable nauseous feelings immediately returned and I almost started to vomit. Somewhat embarrassed by my lack of faith in his medical skills, I had to ask Dr Kroening to reinsert the acupuncture needle in my ear. He smiled and complied with my request. Almost immediately after he replaced the acupuncture needle, the abdominal discomfort quickly subsided. Only after leaving the needle in place for 20 minutes was I able to remove it without nausea returning.

What this experience clearly taught me was that auriculotherapy could be very fast acting, but without sufficient stimulation of the appropriate ear acupuncture point, the benefits could rapidly fade. The changes in nausea sensations were directly related to the insertion, the removal, then the reinsertion of the acupuncture needle. Since this initial observation, I have used the Stomach point for myself and many clients I have worked with. Both needle insertion and transcutaneous electrical stimulation can quickly relieve stomachaches, not only in response to disagreeable foods, but also from the side effects of various medications. It is also possible to produce a more gradual reduction in nauseous feelings from just the tactile pressure of rubbing one's own finger over the Stomach point. Acupressure is not as rapid as electrical stimulation, usually requiring several minutes of maintained pressure against the ear points, but it allows patients to help themselves without any equipment.

Pain complaints related to internal viscera are represented in a different region of the ear than are musculoskeletal complaints. The central concha zone is associated with diffuse representation of the vagus nerve control of internal organs. The surrounding ridge of the antihelix and antitragus are associated with more precise control of musculoskeletal movements. For that reason, a broad area of concha points affecting the stomach can be found, but there are only a small set of specific antihelix points that could affect the thoracic spine. Auriculotherapy is very effective for the relief of gastrointestinal distress which is not successfully alleviated by conventional treatments. I have now treated nausea in many patients with AIDS who are being administered antiviral medication or cancer patients who are undergoing chemotherapy. In most of these cases, stimulation of the auricular Stomach point dramatically alleviates their gastrointestinal reactions. There are now over 20 controlled clinical trials demonstrating that needling of the body acupuncture point PC 6 on the wrist has a significant antiemetic effect. The relief of nausea by stimulating the auricular Stomach point can be just as profound.

PL was a 28-year-old gay male who had been diagnosed with HIV disease 6 years before I saw him. The advent of triple combination therapy had yielded a great improvement in his T-helper cell count and a dramatic drop in viral load, yet PL continued to suffer from agonizing stomach discomfort related to his HIV medications. Weekly treatment of the Stomach point (5 Hz, 40 μ A, 30 s) and master points (10 Hz, 40 μ A, 10 s) on both ears allowed PL to feel substantially more comfortable for the next several months. However, auriculotherapy stimulation of his Thymus Gland point did not reverse the progressive deterioration of his immune system. He only stopped coming for treatments in the several weeks before his death, when he was too weak to get out of bed. Another AIDS patient reported a similar positive experience with auriculotherapy. LR was a 30-year-old gay male who continued to lose weight from his lack of appetite. His HIV medications gave him such severe stomachaches that he needed to stop them periodically so that the side effects of these drugs did not compromise his health. When he did take his HIV medications, LR reported that the auriculotherapy treatment was the only medical procedure that provided him any sense of comfort. He has continued to positively respond to stimulation of the Stomach point, to the auricular master points Shen Men and Point Zero, and to stimulation of the Vitality point on the upper tragus of the ear.

AS was a 47-year-old female who had been previously diagnosed with liver cancer. Her health had not improved after three different trials of chemotherapy. She also was greatly distressed by nausea from the chemotherapy medications she was taking. Stimulation of the Stomach point on the concha ridge of the ear produced pronounced alleviation of her chronic stomachaches. Electrical detection indicated a broad spread of reactive points related to the Stomach region of the ear, not just a single point. As indicated previously, determination of auricular points for internal organs does not require the same precision as the identification of musculoskeletal ear points. When using microcurrent transcutaneous stimulation, the concha region of the ear is stimulated at 5 Hz for 30 seconds, while needles are left in place for 30 minutes. For both forms of stimulation, the treatment effect is augmented by the placement of ear seeds over the Stomach point that are left in place for the next week.

Oleson & Flocco (1993) conducted a controlled clinical trial that demonstrated that premenstrual symptoms were more significantly reduced in a group of women who were given acupressure at appropriate auricular reflex points as contrasted with a different set of women who were given sham reflexology sessions over a similar time period.

8.2 Myofascial trigger points

As a teaching hospital, the UCLA Medical Center exposes beginning doctors to a variety of educational experiences. Residents in the UCLA Department of Anesthesiology were offered training in the Pain Management Center as one of their elective rotations. These residents were routinely shown demonstrations of trigger point injections as an alternative procedure to the nerve blocks that anesthesiologists conventionally use to treat chronic pain. Myofascial pain can be alleviated by trigger point stimulation when intravenous injection of a local anesthetic into a specific muscle region blocks the reflex arc that maintains muscle spasms. On one occasion, a group of UCLA residents first observed the primary clinic physician palpate the trapezius muscle of patient CN, who was suffering from shoulder pain. Hypersensitive trigger points were identified on the patient's right trapezius muscle, and CN had significant limitation in the range of motion of his right arm. The attending physician suggested that the residents observe a demonstration of auriculotherapy prior to their practice with trigger point injections. I examined the patient's right ear and reactive points were found on the shoulder region of the auricle. Electrical stimulation of these reactive ear points led to an immediate reduction in the patient's subjective sense of discomfort. The range of motion in his arm was no longer limited. When the original physician again palpated CN's trapezius muscle, he could no longer objectively identify the previously detected trigger points. The success of the auriculotherapy eliminated the need for any other treatment. Since the presence of the trigger points had been evaluated by another doctor who was not present when the auriculotherapy was conducted, this observation was comparable to a double-blind assessment of patient improvement.

One of the most common conditions recently seen in many pain clinics is the diagnosis of fibromyalgia, literally defined as the presence of pain in many groups of muscle fibers. JM was a 43-year-old female who reported pain in multiple parts of her body. She exhibited hypersensitive trigger points in her jaw, neck, shoulders, upper back, hips, and legs. Reactive auricular points were evidenced throughout the ear. The auricular points corresponding to the jaw, cervical spine, thoracic spine, shoulders, and hips were electrically stimulated at 10 Hz, on both the anterior and posterior regions of the external ear. Bilateral stimulation was also applied to Point Zero, Shen Men, Thalamus, Endocrine and Muscle Relaxation. After each auriculotherapy treatment, JM reported feeling very relaxed and experienced a profound decrease in her various pain symptoms. Unfortunately, the aches in her spine and in her limbs gradually returned several days after the treatment. Biofeedback relaxation training and individual psychotherapy were also integral to the progressive improvement over 14 weeks of treatment. Complex pain disorders, such as fibromyalgia, require more than the alleviation of nociceptive sensations. Successful treatment of fibromyalgia also requires attention to the management of daily stressors and helping the individual to resolve deeper psychodynamic emotional conflicts.

Someone who did not respond so favorably to interdisciplinary treatment was EJ, a 45-year-old mother of two adolescent children. She complained of chronic pain in many parts of her body and reluctantly discussed that she suffered distress from problems in her marriage. She had been referred to me by a fibromyalgia support group that meets in a hospital in Los Angeles. EJ reported tenderness and discomfort at trigger points found in various parts of her body, and for each of the multiple sites of pain perception in the body there were corresponding tender points on her external ear. Stimulation of the electrically reactive auricular points led to reduced levels of perceived pain and enhanced feelings of comfort and relaxation. EJ seemed grateful for the immediate relief, but the treatment effects only lasted several days. She was constantly in conflict regarding her marriage and afraid of being left alone. At the same time she was frustrated by the continued lack of attention from her husband. The stress of this indecision seemed to reinstate her fibromyalgia pain each week. Besides the musculoskeletal and master points that are typically used for pain, EJ also received stimulation of the ear acupoints related to psychosomatic disorders, nervousness, and depression. When it was suggested in the course of therapy that she might consider the option of asserting herself with her husband, she became defensive and quiet. She did not return for any other sessions, insisting that she only wanted to focus on her pain problem and not these other issues in her life. Several months later, she was still in the fibromyalgia support group, still suffering from chronic pain. There are certain patients who are not ready to fully engage in the activities that would reduce their physical pain when it requires that they also address the sources of their emotional discomfort.

8.3 Back pain

One of the most frequent applications of auriculotherapy is for the treatment of back pain. DF, a 43-year-old married mother of two adult children, had been injured on the playground at the elementary school where she taught. Various medical procedures by four other doctors at UCLA led to partial but inconsistent relief of her back pain. Auriculotherapy treatment produced a marked release of the tightness in her back, but her pain gradually returned after each session. Despite the persistent aching in her back, DF continued to go to work regularly as an elementary teacher and to do the household chores and cooking for her husband, and her adult son, and her daughter when she got home. It was not until DF also learned biofeedback relaxation and assertiveness skills that the pain subsided for longer periods. She needed strong encouragement to ask her family for the assistance she needed around the house and to take time for herself to relax. Sometimes a pain problem is present for secondary gain issues that must be corrected before the effects of auriculotherapy can be sustained. Auriculotherapy can dramatically alleviate back pain, but the patient's life style that puts additional stress on that individual must also be addressed.

CJ was a 38-year-old male airline pilot who attributed his chronic back pain to the 2-hour commute from his home in Santa Barbara to his airline base at Los Angeles International Airport. The patient's drawings of the location of his discomfort indicated that his pain was localized to his left buttocks. While there were several reactive acupoints on CJ's right and left external ears, the Buttocks and Lumbago points on the left ear showed the most tenderness and electrical conductivity. Even though his job stress remained unchanged, five auriculotherapy treatments led to pronounced relief of the pain in his buttocks. CJ also came to greater acceptance regarding his divorce, incidentally describing his wife as a 'pain in the ass.' Several weeks after the pain in his lower back was gone, CJ noticed a new pain problem on the left side of his neck. Sometimes, successful treatment of a primary problem allows a secondary issue to surface. CJ also commented on a stressful weekend with his new girlfriend, and suggested she had been a 'real pain in the neck.' While the Buttocks and Low Back points on the ear were no longer tender on palpation, the Neck region of the left auricle had become very sensitive. It required only two auriculotherapy sessions to ease the pain and tightness in CJ's neck. Treatment primarily consisted of electrical stimulation of the Neck point (10 Hz, 60 μ A, 20 s). The master points Shen Men, Point Zero, Thalamus point and Muscle Relaxation point were also stimulated. It was further suggested that he needed to discuss his angry feelings with his new girlfriend rather than unconsciously somatizing his emotions.

While his original motivation to seek treatment was for generalized anxiety, AC had called to cancel an appointment because of acute back pain. A 33-year-old male public relations executive, AC could not get up out of his bed the day after he had been in an accident. He had already missed two days of work on the day he contacted me about his condition. I was able to see him in his home with a portable, electronic device. Auricular stimulation was applied to extremely tender and electrically reactive points on the anterior antihelix points and on the posterior groove points that correspond to the lumbar spine. Stimulation (10 Hz, 20 μ A, 30 s) of these auricular acupoints on the right and left external ears was accompanied by treatment of the master points Shen Men, Point Zero, Thalamus, and Master Cerebral point. The response to this treatment was immediate and profound. At the conclusion of the auricular stimulation procedures, AC was able to get up from his bed without any discomfort in his back. He could bend and turn in ways that were impossible just 15 minutes earlier. Because the cause of his problem was so recent, auriculotherapy treatment led to dramatic improvement in just a single session. Auricular pellets were placed on the front and the back of the Lumbar Spine points. By the next day, he was able to return to work. The ear pellets were removed after one day and his back problems were gone.

Sciatica is the medical condition which first brought the possibilities of auriculotherapy to the attention of Paul Nogier in the 1950s. As noted by him over 50 years ago, and as observed by many ear acupuncturists since, sciatica pain can be greatly alleviated by auricular acupuncture. BH was a 23-year-old male with complaints of sciatica and shooting pains down the left hip and left leg. When pressure was applied to the L5-S1 point on the inferior crus of the left antihelix, BH found it excruciating and it was also the most electrically responsive region of his left ear. Reactive points were also found in the triangular fossa, the auricular region which Nogier correlated with the location for the leg. Electrical stimulation of reactive points on the front and back of the auricle led to an 85% reduction in pain level that BH recorded on a visual analog scale. Ear seeds were placed on the Sciatica point and on the Nogier Leg point to sustain the treatment effects.

MJ, a normally very athletic 26-year-old male patient, had become incapacitated by severe back pain. During the first auriculotherapy session for his back pain problems, I also noticed that MJ had an open scar on the region of the helix root that adjoins the face. Two months of antibiotic medications prescribed by his primary physician had failed to heal this scar. The scar was located on a part of the external ear where Chinese auricular charts depict the external genitals. For MJ's back pain, bipolar electrical stimulation was applied to the Lumbosacral points on the antihelix inferior crus of his left auricle. To facilitate wound healing, monopolar probes were placed across the edges of the scar on the ear. The patient was told that electrical stimulation could potentially heal skin lesions as well as relieve back pain. At his appointment a week later, MJ came into the treatment room very upbeat. He was amazed not only by a decrease in his back pain, but also because his previously undisclosed scrotal pain had diminished – a surprise for both of us. These results are explained by microsystem theory as organocutaneous reflexes producing the mysterious scar on MJ's ear and treatment of that scar activated a cutaneo-organic reflex that alleviated discomfort in the genital region.

While it is impressive to observe the many patients successfully treated with auriculotherapy, it is also important to distinguish the sources of treatment failures. Two different cases of back pain illustrate the limitations of this procedure. RT was a 33-year-old male art dealer and EE was a 41-year-old male executive at a Hollywood movie studio. They both suffered from recurrent back pain that was at times manageable, but at other times prevented them from going to work. Both men had received nerve blocks and physical therapy. Only periodic treatment with opiate medications produced temporary alleviation of their discomfort. Both men were contemplating surgery for the removal of bone spurs along the spine, uncovered by MRI scans. RT and EE both expressed interest in trying auriculotherapy before undergoing possibly risky surgical procedures. They were each given several auriculotherapy sessions where reactive points that represent the back were electrically stimulated. RT reported that the auricular stimulation produced a brief reduction of his back pain, but any body movement reactivated intense discomfort. While EE did not initially report very severe pain, he also did not exhibit much relief from that pain after receiving auricular stimulation. Both men ultimately underwent surgical procedures to remove the bone spurs and their back conditions were almost completely relieved.

From these two examples, it can be seen that auriculotherapy is not particularly effective when there is an underlying physical structure causing pain, in these instances a bone spur. Auriculotherapy can be more helpful when the problem is due to muscle tension and the pathological functioning of neuromuscular control of muscle spasms. Failure to provide satisfactory pain relief to another male patient was accounted for by the presence of a different structural problem. MB was a 34-year-old computer graphics artist who had been to four different physicians for chronic neck pain before being referred to me. After five sessions where auriculotherapy did not alleviate his pain problem, MB discontinued treatment. A year later he contacted me to inform me that a subsequent physician had diagnosed a constriction in his cervical spine that was corrected by surgery. It was only after this surgery that his persistent neck pain was alleviated. While osteopathic surgery can sometimes lead to further complications of a chronic pain condition, it is at other times the only effective solution.

8.4 Peripheral neuropathy and neuralgia

Different regions of the auricle and different stimulation frequencies are used for neuropathic pain than for musculoskeletal or internal organ conditions (Oleson 1998). Muscular atrophy and persistent pain in his left arm were attributed by 57-year-old JJ to stress and strain related to work activities. Reactive ear points were electrically detected on the auricle at the Cervical Spine region along the antihelix tail and at the Elbow and Wrist points on the scaphoid fossa of the left ear. Microcurrent stimulation at these three points was accompanied by an immediate warm tingly sensation throughout JJ's left arm and hand. In the Nogier school of auriculotherapy, musculoskeletal disorders are stimulated with a frequency of 10 Hz, usually at 40 μ A for 20 s. Moreover, because muscle tension or weakness is related to a pathological disturbance within motor neurons, the cervical posterior groove and the posterior triangle were also stimulated. These posterior ear points lie immediately behind the acupoints found on the front surface of the auricle. After only 3 weekly sessions, JJ reported a 70% reduction in pain, as measured by the visual analog

scale, and was able to return to his position as an accountant for a restaurant chain. While the alleviation of pain had been fairly rapid, the improvement in muscular atrophy was initially just slight. Satisfactory improvement in motor function required 8 more weeks of auriculotherapy.

TM was a 28-year-old male graduate student who had been severely injured by faulty wiring in a piece of electronic equipment. A lethal jolt of electricity flowed from the wall cord of the equipment up his left hand, spreading to his head and down the left side of his body. His shoe was completely melted around his left foot. When I first saw him, he walked with a limp, dragging his partially paralyzed left leg, and he could not fully use the fingers of his left hand. Auriculotherapy treatment of his left external ear included points corresponding to the hand, the arm, the leg and the brain. These sessions were continued for over 3 months. The reduction in pain sensations in his hand and the enhancement of his motor abilities and his memory was gradual, but steady. By the last session, auriculotherapy had assisted TM in being able to write more legibly and without feeling pain in his fingers. His leg movements were more fluid and he could remember more details of the academic topics he had studied before the accident. He was by no means completely healed, as the neurological damage he had suffered seemed to result in permanent motor dystrophy. Nonetheless, auriculotherapy had led to far greater improvements than any of his medical doctors had expected.

One of the most distinctive demonstrations that I had ever witnessed of the specificity of auriculotherapy was with the treatment of a 46-year-old female diabetic patient with peripheral neuropathy. HR had accumulated three volumes of UCLA medical records that described in detail her multiple treatments for multiple conditions resulting from a life history of diabetes mellitus. In addition to the severe pain in her feet, HR experienced severe glaucoma, chronic back pain and feelings of bitterness and despair. She had developed a rather resentful, pessimistic and hostile attitude toward the medical profession for failing to provide adequate relief of her varied sources of discomfort. Her negative reactions toward conventional medical treatments made it seem unlikely that she would respond any more favorably to alternative therapies, but auriculotherapy was recommended nonetheless. When HR entered the UCLA pain clinic, she walked with a limp, requiring the assistance of her husband, and there was a pronounced scowl upon her face. After the initial interview, she lay down upon the examination table and her external ears were scanned for areas of decreased electrical resistance. There were reactive points on her right ear in auricular regions that corresponded to the feet. These auricular points for the foot were electrically stimulated first (10 Hz, 40 μ A, 30 s), followed by stimulation of the master points on the right ear identified as Shen Men (10 Hz, 40 μ A, 10 s), Point Zero (10 Hz, 40 μ A, 10 s), and Thalamus (80 Hz, 40 μ A, 20 s). Within 2 minutes of the completion of this stimulation of acupoints on the right auricle, a marked change appeared upon the patient's face. Her negative frowns were replaced by an almost peaceful countenance. HR quietly exclaimed that the pain in her right foot was completely gone – for the first time in over 7 years. Interestingly, the pain in her left foot and on the left side of her back was approximately the same. It was not until after reactive points on the left external ear were stimulated that there was a reduction of pain in her left foot and left back.

The significance of this differential effect observed in HR was profound. If the auriculotherapy were due to a general systemic effect, such as from a morphine injection, the pain relief should have been experienced equally in both feet. If HR had been given an intravenous injection of morphine it would not have taken effect so quickly but would have taken 10–20 minutes for her to notice significant analgesia. Numerous scientific studies in humans and animals indicate that there is a systemic release of endorphins following auricular acupuncture. Localized pain relief in only one foot of HR suggests that specific neurological reflex circuits more appropriately account for this selective action of auriculotherapy rather than general endorphin release. Patient HR continued to improve over the next several months of weekly treatments. The pain in both her feet gradually returned to some degree, but with each successive auriculotherapy treatment it diminished for longer periods of time. Her back pain and her ability to walk without assistance also improved, and there was a pronounced enhancement of her mood. By session 15, there was only minimal recurrent pain in her feet and interactions with HR became more pleasant. She reported feeling optimistic about her health, even though she still suffered from diabetes and glaucoma.

Auriculotherapy has been used effectively for neuropathic pain both from diabetes and from HIV disease. JT was a 37-year-old man diagnosed with AIDS and suffering from neuropathic pain in his feet and lower legs for over 8 months, whereas RB was a 58-year-old man who had periodically

suffered from diabetic neuropathy affecting his feet. Even though the source of their neuropathy was very different, the auricular treatment of the neuropathic pain was almost identical. For both JT and RB, reactive ear points were identified on the uppermost regions of the auricle, which represent the Chinese and European localizations of the Feet. Ear acupoints were also stimulated on the uppermost region of the helix tail, which corresponds to the Lumbar Spinal Cord. The somatic region of the auricle, representing control of the musculoskeletal tissues of the feet, is stimulated at 10 Hz. The helix tail region that represents neurological spinal tissue is stimulated at 40 Hz. Higher frequencies of stimulation are used for neurological tissue than muscular tissue according to a model first proposed by Nogier (1983). Similar to the findings from MRI scans, resonant waveforms occur at different frequencies for different types of tissue. More recently evolved tissue, such as that of the nervous system, is said to respond more optimally to higher resonance frequencies than more primitive tissue, such as muscles and internal organs. Stimulation of the Foot points and the Lumbar Spinal Cord points on the auricle contributed to the complete elimination of the peripheral neuralgia pain in the feet. Both JT and RB reported maintained relief of their peripheral neuralgia after six sessions of auriculotherapy.

Herpes zoster, or shingles, is a different type of neuropathic pain that is found in many AIDS patients as well as patients with diabetes. TP was a 32-year-old man diagnosed with AIDS 5 years prior to my first examining him. He was initially seen for relief of the stress and anxiety associated with his HIV infection. At a group therapy session, TP became extremely distressed after he revealed his HIV+ status. Even though the group was very supportive, TP felt enormous shame and a deep sense of rejection. The next day he came down with shingles. The acute inflammation of the T4 dermatome abruptly appeared on the right side of his chest, upper abdomen and upper back. Reactive ear points were found on his antihelix body, which represents the chest, and on the thoracic spinal cord region of the helix tail. After the first session of auriculotherapy, not only had the pain sensations in the body been eliminated, but there was a rapid reduction in the bumpy swelling and redness of the skin. After 2 further weekly auriculotherapy sessions, there was no further presence of the herpes reaction.

An almost identical response was exhibited by EO, a 76-year-old woman who became affected by shingles as a reaction to her antihypertensive medication. The herpes zoster affected the L1 dermatome on her right side, manifested by blotchy red hypersensitive skin. She was given bipolar auricular stimulation (10 Hz, 40 μ A, 60 s) to the antihelix crus and antihelix body regions, which represent the musculoskeletal tissue of the lower spine, and faster frequency auricular stimulation (40 Hz, 40 μ A, 60 s) to the lumbar spinal cord region found on the upper helix tail. Monopolar electrodes were also held on each side of the dermatomal zone that was inflamed. Low frequency stimulation was applied across the skin of the body for a further 10 minutes. There was a gradual lessening of heightened sensitivity, and after 2 days her blotchy red skin had almost completely returned to normal. Combining body stimulation with auriculotherapy is a very effective procedure for treating both neuropathies and neuralgia.

Several case studies on the effect of auriculotherapy for healing leg wounds were reported by Fred Swing at the 1999 International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine (ICCAAAM). JC was a 68-year-old male admitted to a Texas hospital for sepsis, pneumonia and multiple large ulcers on both lower legs. Because of the sensitivity of the wounds on the patient's legs, only ear acupuncture was allowed. The day after auriculotherapy, increased presence of fluids and redness in the wound areas was observed by the attending nurse, the feet were warmer, and the patient reported greater sensations in his lower legs. Auriculotherapy and traditional wound care treatment were continued for the next 4 months. After 50 ear treatments, the right leg was completely healed and the left leg was sufficiently improved to permit successful skin grafting. The ear acupoints for the Leg, Shen Men, Sympathetic Autonomic, Lungs, and points for dermatological disorders were activated by both needles alone and by electrical stimulation. Since wound healing requires sufficient oxygen and body nutrients delivered to the wound site, auriculotherapy can improve vasodilation of the small arterioles that lead to delivery of oxygen to the lower legs.

The total number of points treated in each clinical case can vary from 5–10 ear points, depending upon how many anatomic and master points are stimulated. The whole auricle is first examined with a point locator, often revealing more than 20 reactive ear points. Only the most electrically conductive and most tender of the points that specifically correspond to the patient's complaints are finally used. With transcutaneous electrical nerve stimulation on the auricle, each point is stimulated with 20–40 μ As for only 10–30 s. The practitioner then moves onto the next point.

Needles inserted into the selected ear points are left in place for approximately 20 minutes, similar to body acupuncture. Treatments are offered twice a week for several weeks and then spaced out to once a week for several more weeks until there is satisfactory improvement in symptoms. Both practitioners and patients continue to be amazed that these different sites on the ear can have such a profound pain relieving effect on complaints from other parts of the body.

8.5 Weight control

An intriguing potential of auricular acupuncture has been its clinical application in weight control. Clinical studies demonstrating the value of auricular acupuncture for the treatment of obesity date back to the 1970s (Cox 1975; Giller 1975). Sun & Xu (1993) treated obesity patients with otoacupoint stimulation, another term for ear acupressure. All patients were also given body acupuncture for the 3-month period of the study. The acupuncture group consisted of 110 patients diagnosed as 20% or more above ideal weight. They were compared to 51 obesity patients in a control group given an oral medication for weight control. An electrical point finder was used to determine the following auricular points: Mouth, Esophagus, Stomach, Abdomen, Hunger, Shen Men, Lung and Endocrine. Pressure pellets made from vaccaria seeds were applied to the appropriate points of both ears. Body acupuncture points needled included ST 25, ST 36, ST 40, SP 6, and PC 6. The acupuncture group exhibited an average reduction in body weight of 5 kg, which was significantly greater than the average 2 kg reduction of body weight measured in the control group. The percentage of body fat was reduced by 3% in the acupuncture group and by 1.54% in the control group, while the triglyceride blood lipid levels were diminished 67 units in the acupuncture group and 38 units in the control group.

A randomized controlled trial by Richards & Marley (1998) also found that weight loss was significantly greater for women in an auricular acupuncture group than in a control group. Women in the auricular group were given surface electrical stimulation to the ear acupoints for Stomach and Shen Men, whereas women in the control group were given transcutaneous electrical stimulation to the first joint of the thumb. Auricular acupuncture was theorized to suppress appetite by stimulating the auricular branch of the vagal nerve and by raising serotonin levels, both of which increase smooth muscle tone in the gastric wall. Rather than examine changes in weight measurements, Choy & Eidenschenk (1998) examined the effect of tragus clips on gastric peristalsis in 13 volunteers. The duration of single peristaltic waves was measured before and after the application of ear clips to the tragus. The frequency of peristalsis was reduced by one third with clips on the ear and was returned to normal levels with clips off. The ear clips were said to produce inhibition of vagal nerve activity, leading to a delay of gastric emptying, which would then lead to a sense of fullness and early satiety. These obesity studies on human subjects have received potential validation from neurophysiological research in animals.

Clinical observations by Niemtzow (1998) showed that blood assays in 42 patients suffering from obesity showed a significant decrease in physiological measures of lipid levels as well as significant reductions in physical weight. The patients were required to maintain a high protein diet while they were receiving the weekly auricular acupuncture treatments. Needles were inserted into the following ear points: Appetite Control, Shen Men, Point Zero, and Tranquilizer. The needles were held in both ears for a period of 15 minutes. Over a 12-week period, mean weight decreased significantly from 206 pounds to 187 pounds, triglycerides changed significantly as well, and there was a marked but statistically significant reduction in total cholesterol. Patient interviews conducted after the study was completed suggested that compared to other times when attempting to diet, auriculotherapy seemed to help them feel more comfortable while they were trying to discipline themselves in their eating.

8.6 NADA addiction protocol

One of the fastest growing applications of auriculotherapy in the healthcare field is the use of ear acupuncture points for the treatment of various addictions. The National Detoxification and Addiction Association (NADA) was founded upon the pioneering work of Dr HL Wen of Hong Kong and the early application of this procedure by Dr Michael Smith of New York City. Wen (Wen & Cheung 1973, Wen 1977) found that placing one needle in the Lung point alone was sufficient to withdraw a heroin addict from his addiction, but he also needled the Shen Men point to produce general calming. Dr Michael Smith (Smith 1979, 1990; Smith et al. 1982) developed a 5-point protocol for substance abuse recovery that included the Lung, Shen Men, Sympathetic Autonomic, Kidney and Liver points on the ear. NADA was formed in 1985 (Brewington et al. 1994)

to allow organization and training opportunity beyond that offered by Smith at Lincoln Hospital. The first open meeting of NADA was held in Washington DC and the NADA board was formed. The first NADA conference occurred in Miami in 1990 because many people were interested in seeing the Drug Court that had been developed in Miami in 1989. Similar drug courts that incorporate referral to NADA practitioners have now been developed in many other states. NADA's official website is <http://www.acudetox.com>. Controlled clinical trials have shown that the five ear points used in the NADA protocol are effective in the treatment of alcoholism (Bullock et al. 1989), cocaine addiction (Margolin et al. 1993a, 1993b), and morphine withdrawal (Yang & Kwok 1986).

To obtain training and certification in NADA, there is a 70-hour course. This training includes 30 didactic hours of instruction and 40 clinical hours working with clients. Training also includes attendance at 12-step meetings. Great emphasis is placed on clinical experience so that NADA practitioners can become comfortable working with an addict population. At Lincoln Recovery Center, most trainees are chemical dependency counselors. They spend much of their time getting comfortable with doing acupuncture as a physical procedure. Students learn about the 'yin nature of the NADA atmosphere,' which is intended to be supportive and non-confrontational. For acupuncturists, the training covers definitions of addiction and mental health treatments. They are instructed to speak the same language as the chemical dependency counselors, the criminal justice system, and medical professionals in those environments.

One of the most important lessons that both acupuncturists and counselors have to learn is to be quiet and let the acupuncture needles do the work. Both groups are used to spending time talking to evaluate patient progress. The NADA protocol encourages a non-verbal approach to treatment. Substance abusers often feel shame, guilt, anger or other issues that they do not know how to cope with verbally. Without acupuncture, the only therapy available is talk therapy, either individually or in a group setting. NADA training also includes learning about various drugs, their pharmacological effects and various types of setting into which acupuncture has been integrated. As a grassroots movement, most NADA programs were started because doors were knocked on and administrators were convinced of the value. Over 4000 practitioners throughout the world have been taught this protocol for the treatment of various types of substance abuse.

8.7 Alternative addiction protocols

While the 5-point NADA protocol has become the most commonly employed treatment program in the United States, it is not the only auriculotherapy procedure to be developed. The ear points used for NADA treatment are principally based on Chinese ear charts, but additional auricular points for addiction have been derived from European treatment plans. Oriental medicine focuses upon the use of the auricular Lung point for detoxification, the Kidney point for yin deficiency, and the Liver point for nourishment. The Shen Men and Sympathetic Autonomic points are intended to alleviate psychological distress and imbalance of spirit. European practitioners of auricular medicine focus upon treating ear points that activate the Nogier vascular autonomic signal (N-VAS). Repeated experience with many substance abuse patients has led to the discovery of ear points additional to those developed at Lincoln Hospital. Drs Jay Holder (Holder et al. 2001) and Kenneth Blum (Blum et al. 2000) were instrumental in developing the American College of Addictionology and Compulsive Disorders (ACACD) based in Miami Beach, Florida. The ACACD protocol includes a total of six auricular points: Point Zero, Shen Men, Sympathetic Autonomic, Kidney, Brain, and Limbic System. Two addiction axis lines were emphasized that connect these different treatment points. A primary axis could be vertically drawn between the Shen Men, Kidney, Point Zero, and Brain points, whereas a secondary axis line could be indicated which connected the Sympathetic Autonomic point and Limbic point. The ACACD approach emphasizes that only reactive ear points are to be stimulated. There has been no controlled scientific research to verify whether the NADA protocol or the ACACD treatment is more effective in working with addicts.

While smoking cessation has been treated frequently with ear points Lung and Shen Men (Regrena et al. 1980), other ear points have also been successful (Oleson 1995).

8.8 International Consensus Conference on Acupuncture, Auriculotherapy, and Auricular Medicine (ICCAAAM)

In 1999, noted authorities in the field of auricular acupuncture from China, Europe and America were gathered in United States to arrive at a consensus on international perspectives of auriculotherapy. Forty speakers with professional expertise in the field discussed varying

Box 8.1 Survey of professional opinions on auriculotherapy	
	%
Conditions better treated with auriculotherapy than body acupuncture	
Smoking cessation	68
Substance abuse	53
Weight control	53
Anxiety	43
Nausea	38
Insomnia	38
Depression	35
Allergies	35
Musculoskeletal pain	28
Attention deficit disorder	25
Neck and shoulder tension	25
Conditions not effectively treated with auriculotherapy	
AIDS and HIV disease	45
Cancer or tumors	43
Schizophrenia	38
Nerve impairment	35
Strokes	33
Spinal spurs	30
Deteriorated disks	28

viewpoints before an audience of over 400 attendees at the ICCAAAM meeting in Las Vegas, Nevada. Representatives from China, Japan, France, Germany, Belgium, Holland, Israel, Canada and the United States discussed both Oriental and Western approaches to the auricular microsystem and auricular acupuncture treatments. Participants at this conference were asked to complete a survey of their experience with auriculotherapy and to comment on different theoretical perspectives of this procedure. A summary of some of these results is presented in Box 8.1. Other parts of this consensus questionnaire are described in the text that follows. A total sample size of 42 professionals completed the 100 items on the questionnaire. There were 24 males and 18 females, with a mean age of 50.2 years. Their mean number of years of auriculotherapy practice was 10.4 years. The data are presented as percentage scores.

The majority of respondents, 70%, felt that auriculotherapy could be combined with body acupuncture or used alone, whereas 20% of the survey participants thought it was better to combine auriculotherapy with body acupuncture in most circumstances. Most of the practitioners, 45%, felt that auricular stimulation produced faster pain relief than body acupuncture, and an equal number of respondents believed that the long term benefits of auriculotherapy were equal to body acupuncture. Most health conditions were thought to be alleviated within three to five sessions of auriculotherapy, with treatment sessions typically one visit per week. The usual duration of an auriculotherapy session was said to last 21 to 30 minutes. The most common fee for such sessions was thought to be \$40 to \$55. Electrical point locators were thought to provide the most accurate procedure for finding reactive auricular points by 73% of the professionals, whereas 20% stated that use of the N-VAS is the most accurate means for conducting auricular diagnosis. Oriental pulse diagnosis was used by 45% of the surveyed practitioners and was seen to be a valuable complement to auricular diagnosis. A majority (53%) of respondents believed that the auricular microsystem interacts with the macro-acupuncture meridians of classical Chinese medicine, and 63% believed that there is an invisible energy such as qi that is affected by auriculotherapy. At the same time, 63% of the professionals believed that the effectiveness of auricular points is due to their connections to central nervous system pathways and 65% thought that the inverted fetus pattern on the ear is connected to the somatotopic organization of the brain.

Box 8.2 Conditions successfully treated by certified professionals in the Auriculotherapy Certification Institute

Health condition	Number of cases
Chronic pain	
Back pain, sciatica, hip pain	216
Pain in leg, arm, wrist, elbow, knee, foot	174
Neck and shoulder pain	155
Migraines and tension headaches	76
Dental pain, TMJ, teeth, gums, facial tics	42
Fibromyalgia, general body aches	36
Osteoarthritis or rheumatoid arthritis	12
Neuropathy, peripheral neuralgia, shingles	11
Cancer pain	10
Substance abuse	
Smoking cessation	51
Obesity, weight reduction, anorexia	26
Alcohol abuse	10
Cocaine, methamphetamine abuse	8
Heroin, morphine abuse	5
Psychological disorders	
Anxiety or stress	62
Sleep disorders, insomnia	48
Depression, mood disorders	24
Chronic fatigue syndrome	17
Attention deficit disorder, dyslexia	6
Childhood problems, bedwetting	5
Internal organ disorders	
Asthma, bronchitis, sinusitis, hiccups, coughing	54
Allergies, common cold, flu, sore throat	46
Dysmenorrhea, PMS, menopausal problems	28
Gastrointestinal pain, constipation, diarrhea	28
Nausea, vomiting, stomach cramps	19
Kidney, bladder or prostate problems	16
Coronary disorder, angina, cardiac arrhythmias	13
Hypertension, blood pressure problems	9
Infertility, labor, postpartum pain	6
AIDS, HIV disease	6
Sexual dysfunctions, impotency	5
Liver disease, gall bladder, appendicitis	5
Neurological disorders	
Sensorineural deafness, tinnitus, vertigo	45
Dermatological, skin disorders	26
Visual impairment, eye disorder	9
Epilepsy, palsy, Parkinson's, motor tremors	6
Stroke, head injury, muscular dystrophy, polio	6
Olfactory disorders, dry mouth	5

8.9 Auriculotherapy Certification Institute (ACI)

An international non-profit organization for training and certifying practitioners of auriculotherapy was established in Los Angeles, California in 1999. The website is at www.auriculotherapy.org. As part of the certification requirements, applicants are asked to describe 20 clinical cases in which they have used auriculotherapy or auricular acupuncture. The most common conditions which 16 different practitioners reported that they have successfully treated are presented in Box 8.2. In most cases, effective alleviation of the health condition was achieved within five auriculotherapy sessions. The most common conditions that were treated were back pain, pain in the extremities, and neck and shoulder pain. Headaches, smoking cessation, stress, anxiety, and respiratory difficulties were the next most frequently treated problems. There were a number of other disorders that were seen less frequently, but still could be effectively treated by auriculotherapy. Applicants for certification also need to pass a written exam which covers academic knowledge of auricular anatomy and the location and function of different ear acupoints used in the Chinese and European schools of auriculotherapy. A practicum exam with an ACI certified professional is given to determine the hands-on capability of the applicant. All individuals who fulfil the requirements of certification are listed on the ACI website.

Auriculotherapy treatment protocols

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- 9.10 Hearing disorders
- 9.11 Nose and throat disorders
- 9.12 Skin and hair disorders
- 9.13 Heart and circulatory disorders
- 9.14 Lung and respiratory disorders
- 9.15 Gastrointestinal and digestive disorders
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- 9.17 Abdominal organ disorders
- 9.18 Gynecological and menstrual disorders
- 9.19 Glandular disorders and sexual dysfunctions
- 9.20 Illnesses, inflammations and allergies

Standard treatment plans: The following treatment plans indicate those ear reflex points that have previously been used for effective treatment of that health condition. This selection of ear points was originally derived from treatment plans developed in China, but was modified by auriculotherapy discoveries in Europe. Practitioners of auricular acupuncture should not treat the entire ear points listed for a given disorder. Only stimulate those reactive ear points which are appropriate for that patient's symptoms and underlying conditions. Consider the ear points listed for each treatment plan as guidelines, not definite requirements that must be rigidly followed. Moreover, some patients may have other ear points needing treatment that are not listed on these pages. Ear points for each plan are designated by one of the following two categories: *primary* ear points and *supplemental* ear points.

Primary ear points are the initial set of points on the auricle listed immediately under the name of the treatment of a disorder in a particular body organ or a specific physiological dysfunction. Primary ear points for a given condition are indicated on the ear charts by underlining.

Supplemental points are those areas of the ear for alternative treatment of a given condition or for facilitation of the action of the primary ear points.

Reactive ear reflex points: For all of the treatment plans listed, the practitioner should limit the treatment to those auricular points that are most reactive, as indicated by increased skin conductance or heightened tenderness to applied pressure. If a point which is listed in these plans is neither electrically reactive nor tender to touch, then it should *not* be included in the treatment plan.

9.1 Addictive behaviors and drug detoxification (Figure 9.1)

9.1.1 Alcoholism

Primary: Alcoholic point, Liver, Lung 1, Lung 2, Brain, Occiput, Forehead, Kidney.C, Point Zero, Shen Men, Lesser Occipital nerve.

Supplemental: Thirst point, Sympathetic Autonomic point, Endocrine point, Tranquilizer point, Master Cerebral, Master Oscillation, Limbic System, Aggressivity, Antidepressant point.

9.1.2 Drug addiction, drug detoxification, substance abuse

Primary: Lung 1, Lung 2, Shen Men, Sympathetic Autonomic point, Liver, Kidney.C, Brain.

Supplemental: Occiput, Adrenal Gland.C, Limbic System.

9.1.3 Nervous drinking

Primary: Alcoholic point, Thirst point, Kidney.C, Brain, Shen Men, Sympathetic Autonomic point, Point Zero, Endocrine point, Thalamus point, Master Cerebral, Tranquilizer point, Nervousness.

9.1.4 Smoking cessation

Primary: Nicotine point, Lung 1, Lung 2, Mouth, Point Zero, Shen Men, Sympathetic Autonomic point, Brain. (Electrically treat Lung points at 80 Hz for 2 minutes, or needle for 20 minutes.)

Supplemental: Adrenal Gland.C, Aggressivity, Limbic System.

9.1.5 Weight control

Primary: Appetite Control, Stomach, Mouth, Esophagus, Small Intestines, Shen Men, Point Zero.

Supplemental: Thalamus point, Master Sensorial, Master Cerebral, Endocrine point, Antidepressant point, Adrenal Gland.C, Brain, San Jiao.

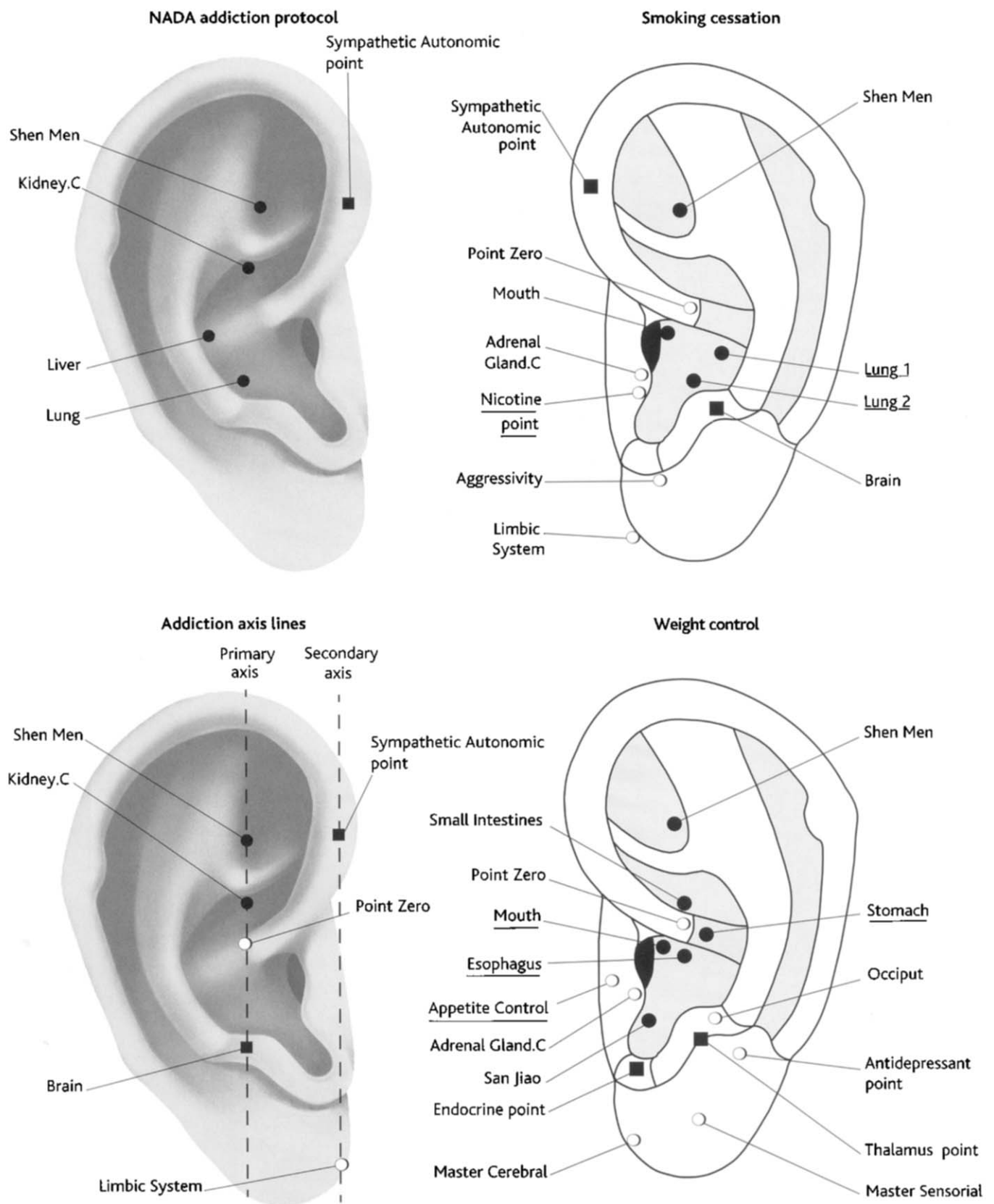


Figure 9.1 Addictive behaviors and drug detoxification treatment protocols.

9.2 Acute and chronic pain in upper and lower limbs (Figures 9.2 and 9.3)

Corresponding body area This phrase refers to ear reflex points for the hip, knee, ankle, heel, toes, shoulder, elbow, wrist, hand or fingers which correspond to the part of the actual body where the patient experiences some pain, pathology, tension or weakness. If there is only limited treatment success for relieving the problem in a particular limb, the practitioner should stimulate Phase II and Phase III points and also examine for obstacles, toxic scars and dental foci.

9.2.1 Bone fracture

Primary: Corresponding body area, Shen Men, Kidney.C, Adrenal Gland.C, Parathyroid Gland.

9.2.2 Dislocated joint

Primary: Corresponding body area, Shen Men, Thalamus point, Adrenal Gland.C, Liver, Spleen.C.

9.2.3 Joint inflammation, joint swelling

Primary: Corresponding body area, Endocrine point, Kidney.C, Adrenal Gland.C, Point Zero, Shen Men.

Supplemental: Allergy point, Apex of Ear, Apex of Tragus, Omega 2, Helix 1, Helix 2, Helix 3, Helix 4, Helix 5, Helix 6, Occiput, Prostaglandin 1, Prostaglandin 2.

9.2.4 Muscular atrophy, muscular dystrophy, motor paralysis

Primary: Corresponding body area, Spinal Motor Neurons, Frontal Cortex, Cerebellum, Spleen.C, Parathyroid Gland.

9.2.5 Muscle spasms, muscle tension, muscle cramp

Primary: Corresponding body area, Muscle Relaxation point, Thalamus point, Point Zero, Shen Men.

9.2.6 Muscle sprain, sports injuries

Primary: Corresponding body area, Heat point, Point Zero, Shen Men, Thalamus point, Adrenal Gland.C, Liver, Spleen.C, Kidney.C.

9.2.7 Peripheral neuralgia

Primary: Corresponding body area, Spinal Sensory Neurons, Thalamus point, Point Zero, Shen Men.

Supplemental: Brain, Sympathetic chain, Adrenal Gland.C, Master Sensorial.

9.2.8 Shoulder pain, frozen shoulder, bursitis

Primary: Shoulder, Shoulder Phase II, Master Shoulder, Clavicle.C, Clavicle.E, Cervical Spine, Thoracic Spine.

Supplemental: Point Zero, Shen Men, Thalamus point, Muscle Relaxation point, Adrenal Gland.C, Kidney.C, Lesser Occipital nerve.

9.2.9 Tennis elbow

Primary: Elbow Phase I, Elbow Phase II, Elbow Phase III, Forearm, Arm, Thoracic Spine, Point Zero, Shen Men, Thalamus point, Muscle Relaxation point, Adrenal Gland.C, Kidney.C, Occiput.

9.2.10 Carpal tunnel syndrome, wrist pain

Primary: Wrist Phase I, Wrist Phase II, Wrist Phase III, Forearm, Hand, Thoracic Spine, Point Zero, Shen Men, Thalamus point.

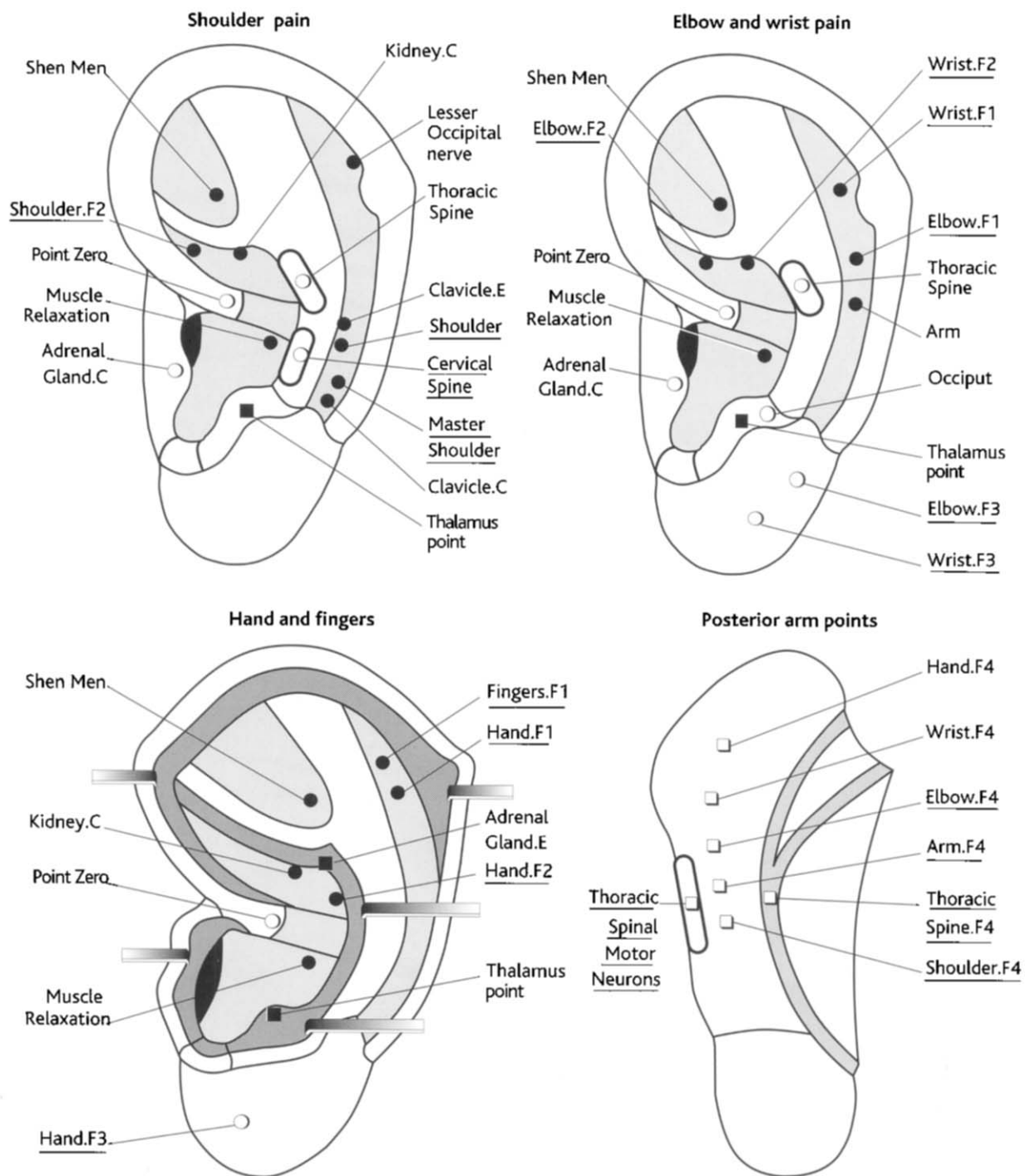


Figure 9.2 Upper limb treatment protocols.

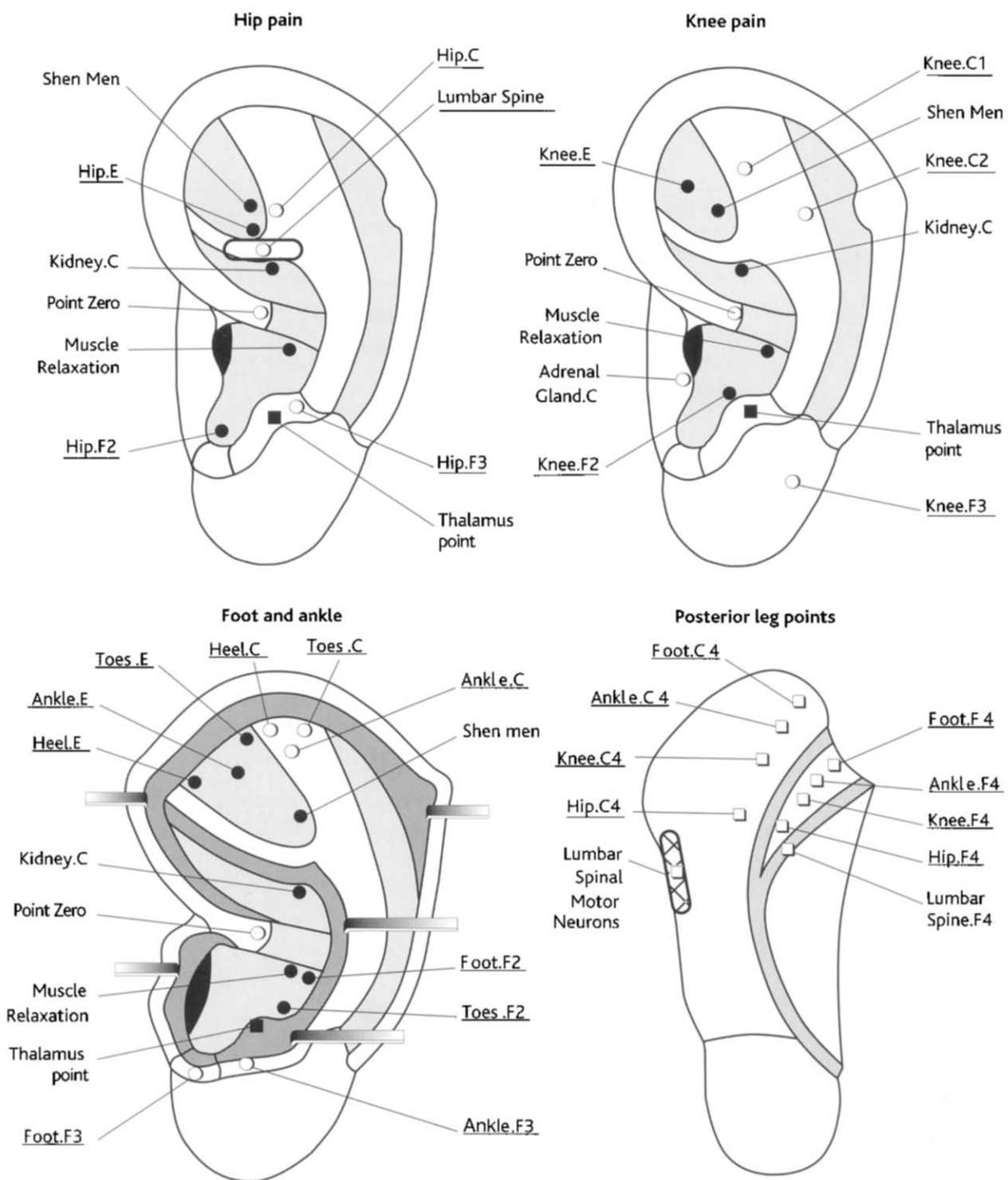


Figure 9.3 Lower limb treatment protocols.

9.3 Back pain and body aches (Figure 9.4)

9.3.1 Abdominal pain, pelvic pain

Primary: Abdomen, Pelvis, Vagus nerve, Sympathetic Autonomic point, Shen Men, Point Zero.

9.3.2 Amyotrophic lateral sclerosis

Primary: Corresponding body area, Spinal Motor Neurons, Medulla Oblongata, Brain, Brainstem, Shen Men, Point Zero, Sympathetic Autonomic point, Endocrine point, Occiput, Kidney.C, San Jiao.

9.3.3 Back pain

Primary: Thoracic Spine, Lumbosacral Spine, Buttocks, Sciatic nerve, Lumbago, Lumbar Spine Phase II on concha ridge, Lumbar Spine Phase III on tragus, Point Zero, Shen Men, Thalamus point.

Supplemental: Darwin's point, Muscle Relaxation point, Liver, Bladder, Adrenal Gland.C.

9.3.4 Fibromyalgia

Primary: Thoracic Spine, Lumbosacral Spine, Muscle Relaxation point, Antidepressant point, Psychosomatic Reactions 1, Point Zero, Shen Men, Thalamus point.

Supplemental: Abdomen, Kidney.C, Sympathetic chain, Master Oscillation point, Vitality point, Tranquilizer point.

9.3.5 Intercostal neuralgia

Primary: Chest, Thoracic Spine, Thoracic Spinal Cord, Point Zero, Shen Men, Thalamus point.

Supplemental: Occiput, Liver, Gall Bladder, Lung 1, Lung 2.

9.3.6 Osteoarthritis, osteoporosis

Primary: Corresponding body area, Parathyroid Gland, Parathyrotropin, Point Zero, Shen Men.

Supplemental: Endocrine point, Adrenal Gland.C, Adrenal Gland.E, ACTH, Omega 2, Allergy point, Apex of Ear.

9.3.7 Rheumatoid arthritis

Primary: Corresponding body area, Omega 2, Prostaglandin 1, Prostaglandin 2, Allergy point, Adrenal Gland.C, Point Zero, Shen Men, Thalamus point, Endocrine point.

Supplemental: Master Oscillation point, Kidney.C, Spleen.C, Occiput, San Jiao, Apex of Ear, Helix 1, Helix 2, Helix 3, Helix 4, Helix 5, Helix 6.

9.3.8 Sciatica

Primary: Sciatic nerve, Buttocks, Lumbago, Lumbar Spine, Hip.C, Hip.E, Thigh, Calf, Point Zero, Shen Men, Thalamus point, Adrenal Gland.C, Kidney.C, Bladder.

Supplemental: Tranquilizer point.

9.3.9 Sedation

Primary: Tranquilizer point, Point Zero, Shen Men, Thalamus point, Forehead, Occiput, Master Cerebral, Heart.C, Kidney.C.

9.3.10 Surgical anesthesia

Primary: Chest, Abdomen, Stomach, Lung 1, Lung 2, Point Zero, Shen Men, Thalamus point, Occiput, External Genitals.C.

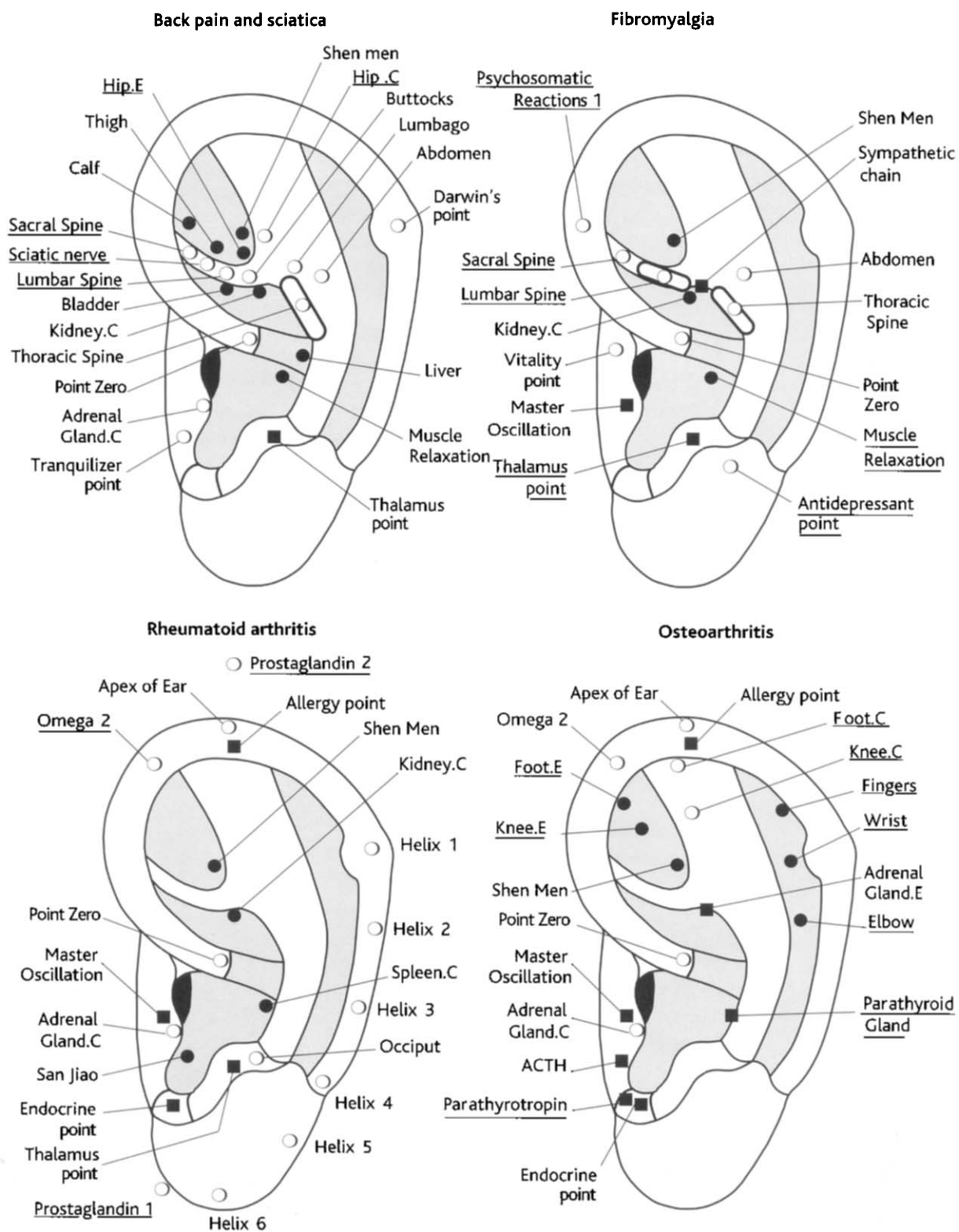


Figure 9.4 Back pain and body aches treatment protocols.

9.4 Head and neck pain (Figures 9.5 and 9.6)

9.4.1 Facial nerve spasms

Primary: Trigeminal Nucleus, Facial nerve, Face, Occiput, Temples, Forehead, Liver, Point Zero, Shen Men, Thalamus point, Master Sensorial, Cervical Spine, Lesser Occipital nerve, Stomach.

Supplemental: Muscle Relaxation, Adrenal Gland.C, Master Cerebral, Tranquilizer point.

9.4.2 Facial paralysis

Primary: Trigeminal Nucleus, Face, Occiput, Point Zero, Shen Men, Thalamus point, Lesser Occipital nerve, Liver, Parathyroid Gland.

Supplemental: Muscle Relaxation, Adrenal Gland.C, Master Cerebral, Tranquilizer point.

9.4.3 Migraine headaches

Primary: Temples, Lesser Occipital nerve, Vagus nerve, Shen Men, Kidney.C, Thalamus point, Cervical Spine.

Supplemental: Sympathetic Autonomic point, Point Zero, Tranquilizer point, Master Oscillation, Master Sensorial, Master Cerebral, Muscle Relaxation.

9.4.4 Sinusitis

Primary: Inner Nose, Frontal Sinus, Forehead, Occiput, Point Zero, Shen Men, Adrenal Gland.C.

Supplemental: ACTH, Adrenal Gland.E, Asthma, Antihistamine, Allergy point.

9.4.5 Tension headaches

Primary: Occiput, Forehead, Cervical Spine, Point Zero, Shen Men, Thalamus point, Shoulder, Master Shoulder, Tranquilizer point, Master Cerebral, Muscle Relaxation, Psychosomatic Reactions.

9.4.6 Temporomandibular joint (TMJ) dysfunction and bruxism

Primary: TMJ, Upper Jaw, Lower Jaw, Cervical Spine, Trigeminal nerve, Occiput.

Supplemental: Master Cerebral, Point Zero, Shen Men, Thalamus point, Master Sensorial, San Jiao, Muscle Relaxation, Psychosomatic Reactions.

9.4.7 Torticollis, neck strain

Primary: Cervical Spine, Neck, Occiput, Clavicle.C, Clavicle.E, Point Zero, Shen Men.

Supplemental: Thalamus point, Endocrine point, Trigeminal Nucleus, Muscle Relaxation.

9.4.8 Whiplash

Primary: Neck, Cervical Spine, Clavicle.C, Clavicle.E, Shoulder, Point Zero, Shen Men.

Supplemental: Muscle Relaxation, Thalamus point, Master Cerebral.

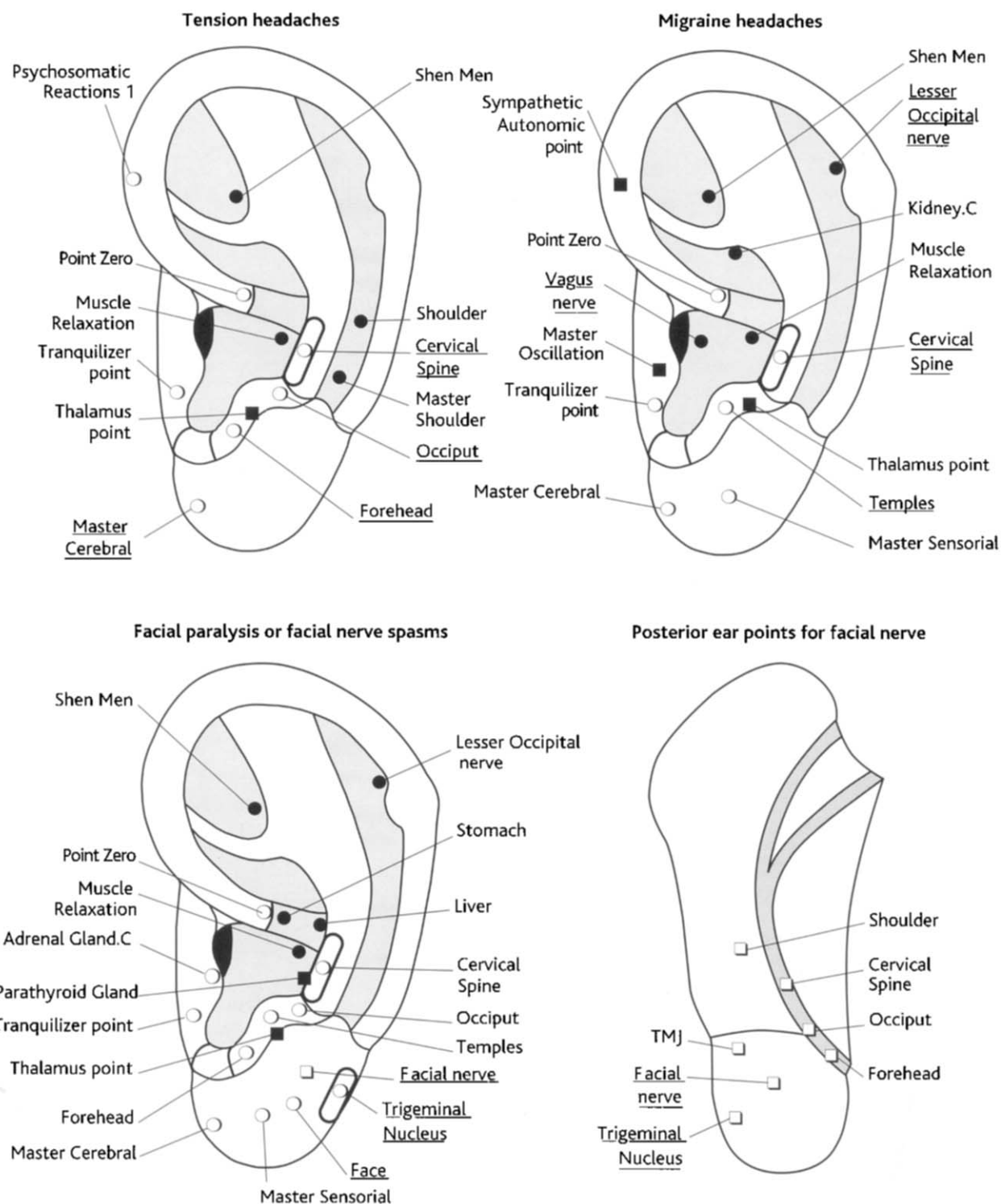
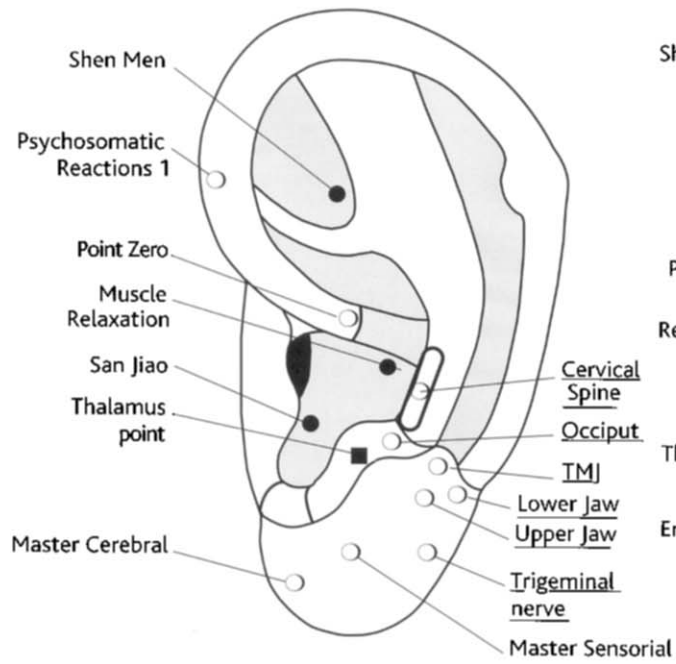
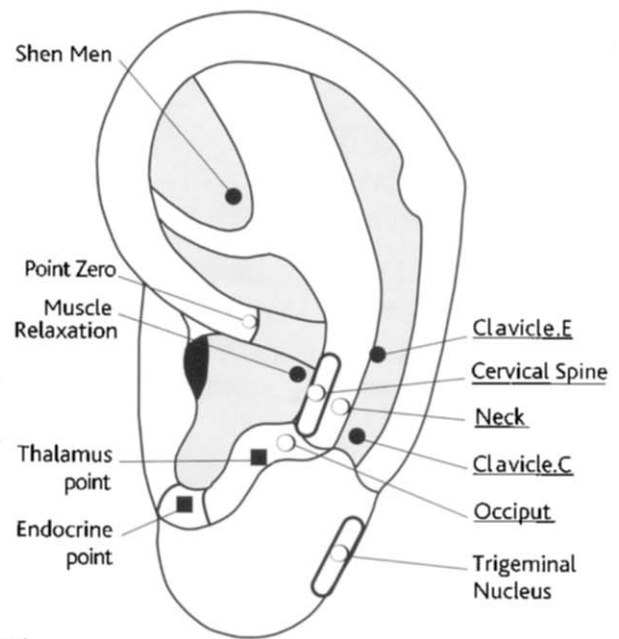


Figure 9.5 Head and face pain treatment protocols.

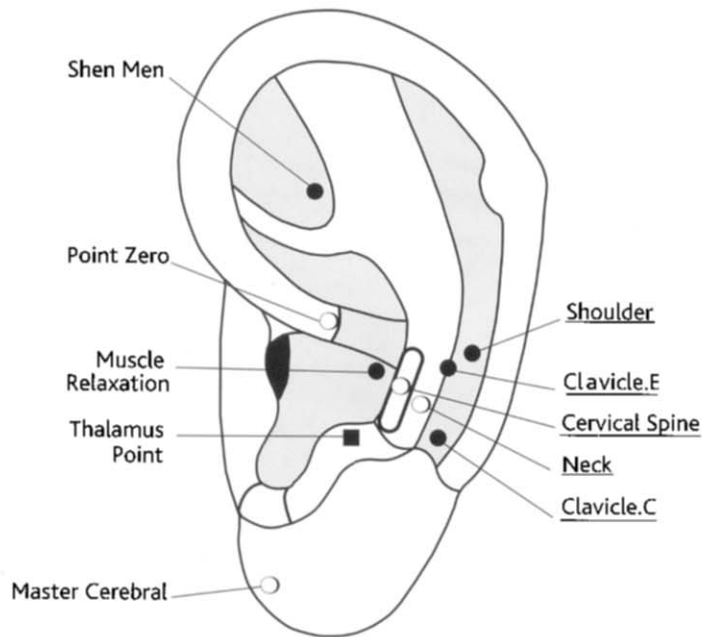
TMJ dysfunction and bruxism



Torticollis and neck strain



Whiplash



Posterior ear points for neck and jaw pain

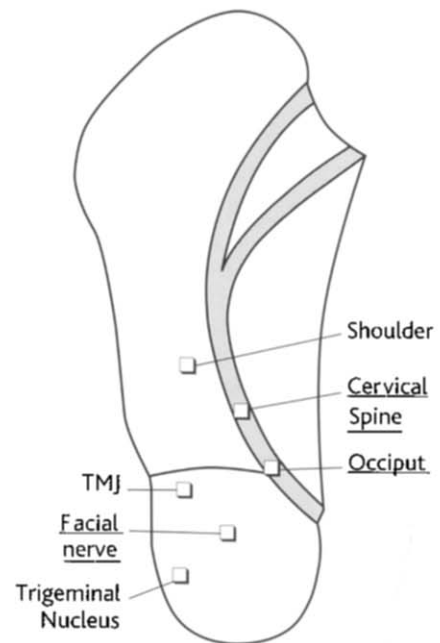


Figure 9.6 TMJ and neck pain treatment protocols.

9.5 Dental pain (Figure 9.7)

9.5.1 Dental Analgesia

Primary: Dental Analgesia 1, Dental Analgesia 2, Upper Jaw, Lower Jaw, Toothache 1, Toothache 2, Toothache 3, Trigeminal nerve.

Supplemental: TMJ, Point Zero, Shen Men, Thalamus point, Tranquilizer point, Stomach, Master Sensorial, Occiput, Kidney.C.

9.5.2 Dental surgery

Primary: Upper Jaw, Lower Jaw, Toothache 1, Toothache 2, Toothache 3, Trigeminal nerve, Point Zero, Shen Men, Palate.

9.5.3 Dry mouth

Primary: Salivary Gland.C, Salivary Gland.E, Thirst point, Mouth, Posterior pituitary, Point Zero, Shen Men, Sympathetic Autonomic point.

9.5.4 Gingivitis, periodontitis, gum disease, bleeding of gums

Primary: Upper Jaw, Lower Jaw, Mouth, Palate, Adrenal Gland.C.

Supplemental: Point Zero, Shen Men, Kidney.C, Spleen.C, Diaphragm, Stomach, Large Intestines.

9.5.5 Mouth ulcer

Primary: Mouth, Tongue.C, Tongue.E, Face, Point Zero, Shen Men.

9.5.6 Toothache

Primary: Toothache 1, Toothache 2, Toothache 3, Upper Jaw, Lower Jaw, Dental Analgesia 1, Dental Analgesia 2, Trigeminal nerve, Shen Men.

Supplemental: Occiput, Kidney.C, Point Zero, Cervical Spine, Master Sensorial.

9.5.7 Trigeminal neuralgia, facial neuralgia

Primary: Trigeminal nerve, Face, Upper Jaw, Lower Jaw, Mouth, Occiput, Shen Men, San Jiao.

Supplemental: Point Zero, Thalamus point, Master Sensorial, Master Cerebral, Temples, Shoulder, Brainstem, Liver, Lesser Occipital nerve, Master Oscillation, Wind Stream.

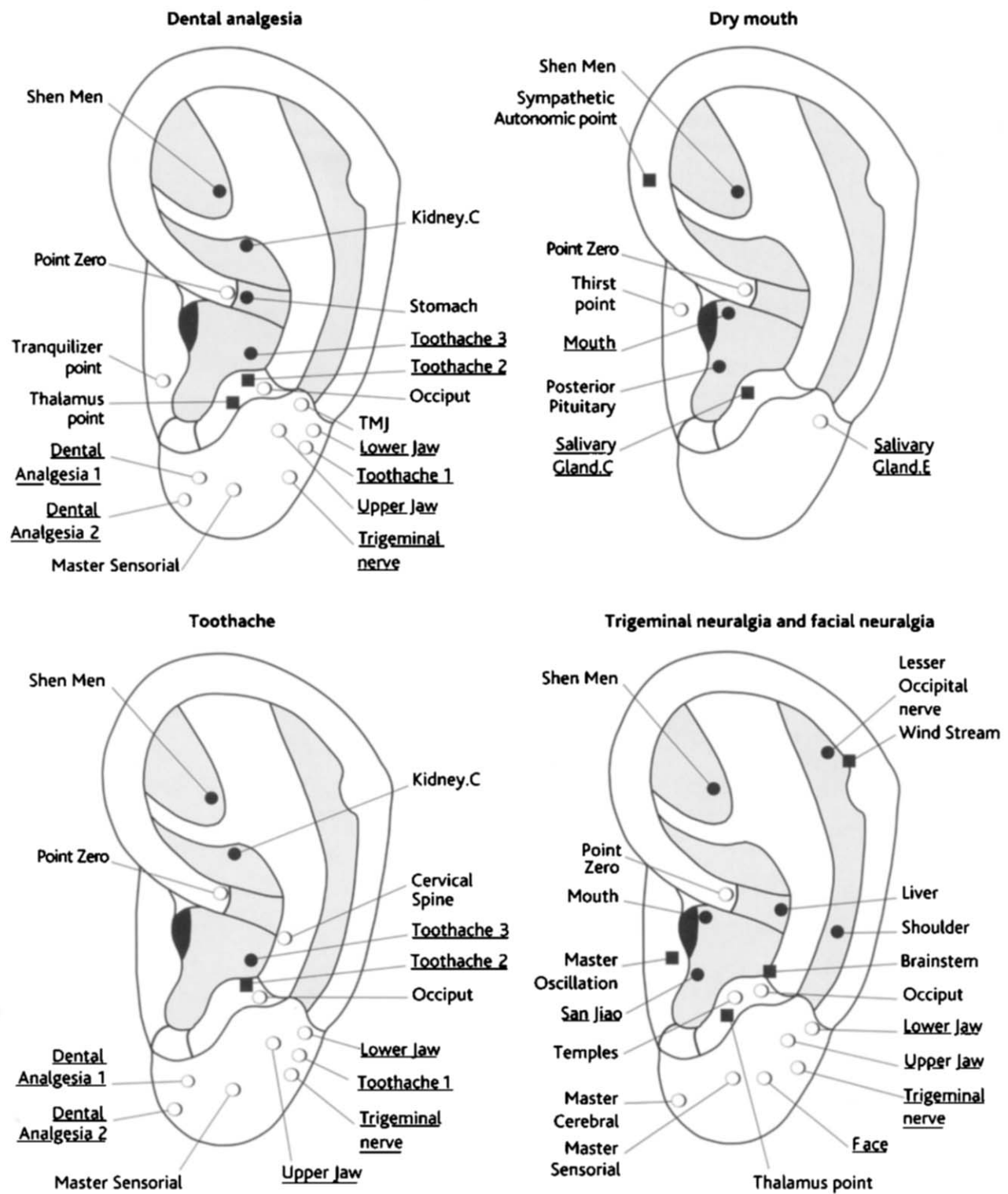


Figure 9.7 Dental pain treatment protocols.

9.6 Neurological disorders (Figure 9.8)

9.6.1 Attention deficit disorder (ADD) or attention deficit hyperactivity disorder (ADHD)

Primary: Hippocampus, Amygdala, Thyrotropin, Thyroid Gland.C, Thyroid Gland.E, Shen Men, Posterior Shen Men, Master Oscillation.

Supplemental: Master Cerebral, Point Zero, Kidney.C, Brain, Brainstem, Occiput.

9.6.2 Bell's palsy

Primary: Face, Forehead, Facial nerve, Point Zero, Shen Men, Thalamus point.

9.6.3 Cerebral palsy

Primary: Brainstem, Point Zero, Shen Men, Thalamus point, Master Cerebral.

9.6.4 Concussion

Primary: Brain, Brainstem, Master Cerebral, Forehead, Occiput, Adrenal Gland.C, Lesser Occipital nerve, Point Zero, Shen Men, Thalamus point, Heart.C, Kidney.C.

9.6.5 Encephalitis, brain trauma

Primary: Brainstem, Forehead, Occiput, Lesser Occipital nerve, Point Zero, Shen Men, Kidney.C, Thalamus point, Master Cerebral, Heart.C.

9.6.6 Epilepsy, seizures, convulsions

Primary: Amygdala, Temporal Cortex, Forehead, Brain, Brainstem, Occiput, Heart.C, Spleen.C.

Supplemental: Point Zero, Shen Men, Thalamus point, Master Oscillation, Stomach, Liver, Lesser Occipital nerve.

9.6.7 Facial tics

Primary: Face, Forehead, Upper Jaw, Cervical Spine, Point Zero, Shen Men, Thalamus point, Master Cerebral, Stomach, Liver.

9.6.8 Laterality dysfunction

Primary: Master Oscillation, Laterality point, Corpus Callosum, Point Zero, Shen Men, Reticular Formation, Yintang point on forehead.

9.6.9 Meningitis

Primary: Brainstem, Point Zero, Shen Men, Thalamus point, Occiput, Forehead, Kidney.C, Stomach, Heart.C, Lesser Occipital nerve, Thymus Gland, Vitality point.

9.6.10 Multiple sclerosis

Primary: Corresponding body area, Brainstem, Medulla Oblongata, Master Oscillation, Point Zero, Shen Men, Thalamus point, Occiput, Thymus Gland, Vitality point.

Supplemental: Lesser Occipital nerve.

9.6.11 Parkinsonian tremors

Primary: Midbrain Tegmentum, Striatum, Adrenal Gland.C, ACTH, Point Zero, Shen Men.

9.6.12 Polio and post-polio syndrome

Primary: Corresponding body area, Spinal Motor Neurons, Medulla Oblongata, Master Cerebral, Point Zero, Posterior Shen Men, Endocrine point.

Supplemental: Thalamus point, Adrenal Gland.C, Occiput.

9.6.13 Stroke or cerebral vascular accident

Primary: Corresponding body area, Brain, Adrenal Gland.C, Adrenal Gland.E, ACTH, Shen Men, Sympathetic Autonomic point, Master Cerebral, Endocrine point.

9.6.14 Tremors

Primary: Spinal Motor Neurons, Striatum, Cerebellum, Point Zero, Shen Men.

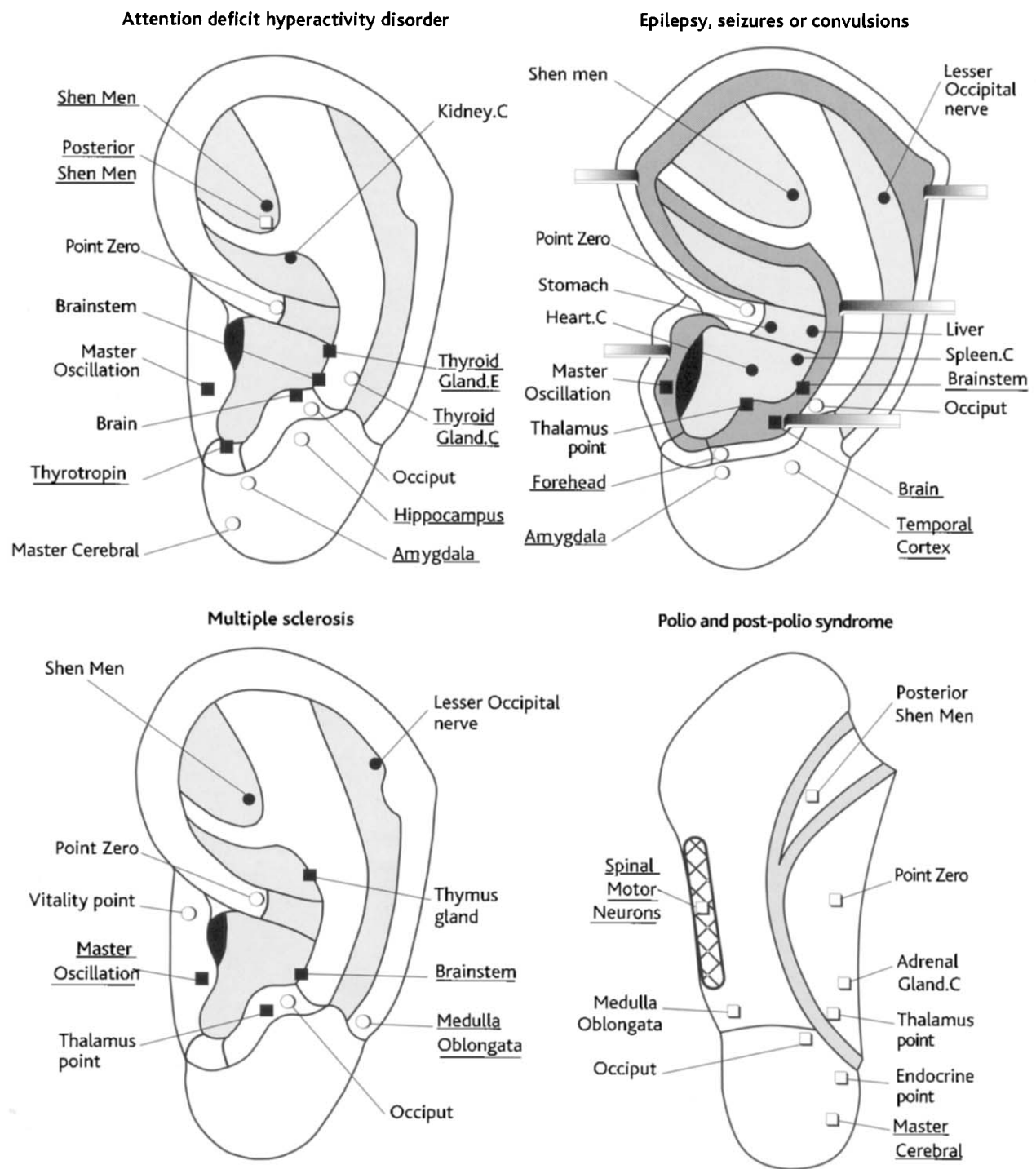


Figure 9.8 Neurological disorders treatment protocols.

9.7 Stress-related disorders (Figure 9.9)

9.7.1 Autonomic excessive activity

Primary: Sympathetic Autonomic point, Sympathetic chain on concha wall, Thalamus point, External Genitals.C, External Genitals.E, Kidney.C.

9.7.2 Chronic fatigue syndrome

Primary: Vitality point, Antidepressant point, Brain, ACTH, Adrenal Gland.C, Adrenal Gland.E, Point Zero, Shen Men, Master Oscillation, Master Cerebral.

9.7.3 Drowsiness

Primary: Excitement point, Alertness, Insomnia 1, Insomnia 2.

9.7.4 Heat stroke

Primary: Thalamus point, Occiput, Heart.C, Heat point, Adrenal Gland.C, Adrenal Gland.E, Lesser Occipital nerve.

9.7.5 Hyperhydrosis or excessive sweating

Primary: Fingers, Hand, Forehead, Sympathetic chain on concha wall, Sympathetic Autonomic point, Endocrine point, Point Zero, Shen Men, Adrenal Gland.C, Adrenal Gland.E, Occiput, Heart.C.

9.7.6 Hysteria, hysterical disorder

Primary: Corresponding body area for perceived problem, Point Zero, Shen Men, Thalamus point, Brainstem, Brain, Occiput, Heart.C, Stomach, Kidney.C, Heart.C, Lesser Occipital nerve.

9.7.7 Insomnia

Primary: Insomnia 1, Insomnia 2, Pineal Gland, Heart.C, Master Cerebral, Point Zero, Shen Men, Thalamus point, Forehead, Occiput, Brain, Kidney.C.

9.7.8 Jet lag or circadian rhythm dysfunction

Primary: Pineal Gland, Insomnia 1, Insomnia 2, Point Zero, Shen Men, Endocrine point.

9.7.9 Psychosomatic disorders

Primary: Psychosomatic Reactions 1, Psychosomatic Reactions 2, Master Cerebral, Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point, Occiput.

Supplemental: Heart.C, External Genitals.C, External Genitals.E, Endocrine point.

9.7.10 Reflex sympathetic dystrophy

Primary: Sympathetic Autonomic point, Sympathetic chain, Point Zero, Shen Men, Thalamus point.

9.7.11 Shock

Primary: Brain, Lesser Occipital nerve, Thalamus point, Adrenal Gland.C, Occiput, Heart.C.

Supplemental: Shen Men, Point Zero, Liver, Spleen.C, Kidney.C, Gall Bladder.

9.7.12 Stress and strain

Primary: Adrenal Gland.C, Adrenal Gland.E, ACTH, Tranquilizer point, Point Zero, Shen Men, Master Cerebral, Muscle Relaxation, Psychosomatic Reactions 1, Psychosomatic Reactions 2.

Supplemental: Endocrine point, Anterior Hypothalamus, Occiput, Posterior Hypothalamus.

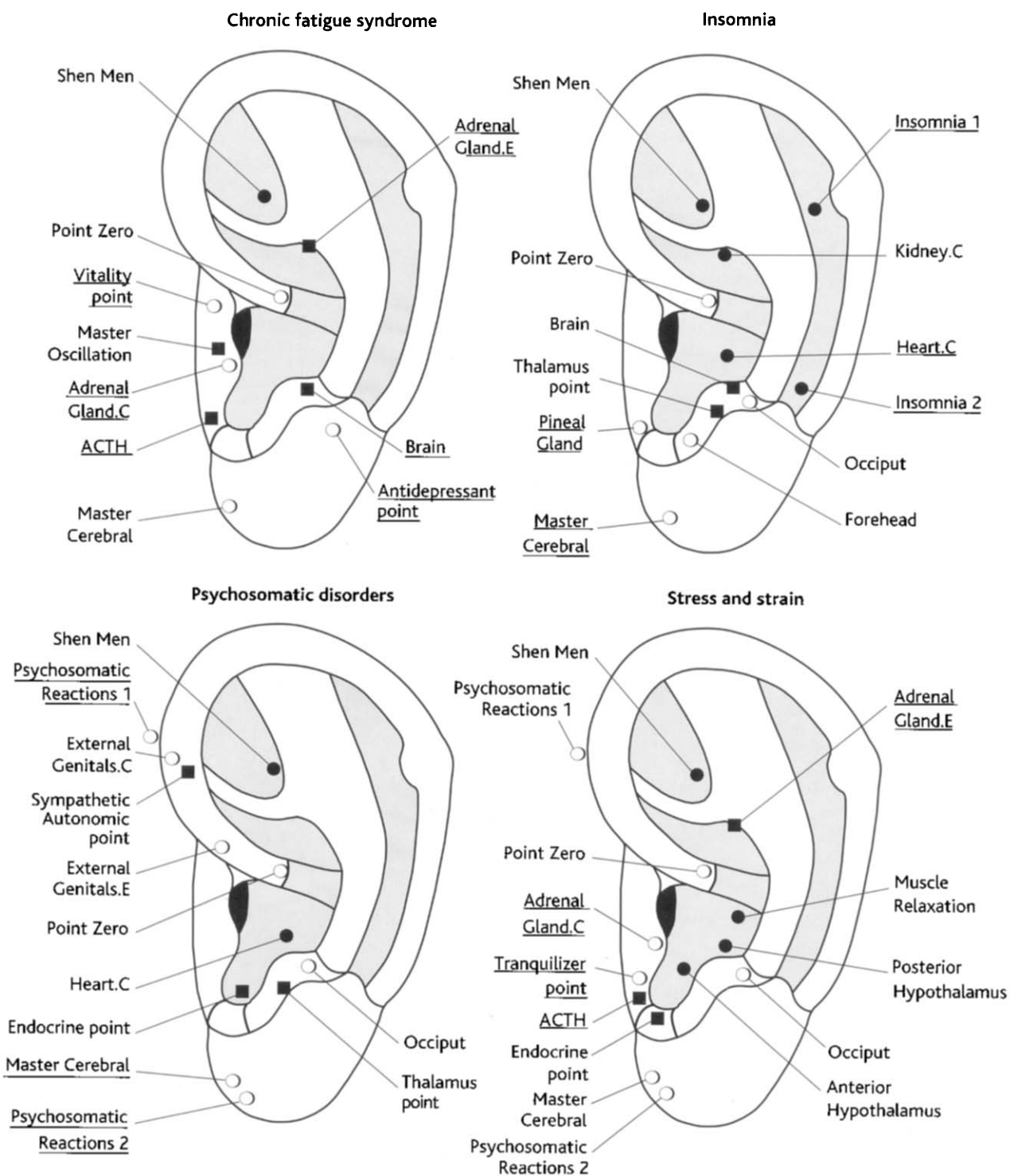


Figure 9.9 Stress-related disorders treatment protocols.

9.8 Psychological disorders (Figure 9.10)

9.8.1 Anxiety

Primary: Nervousness, Master Cerebral, Tranquilizer point, Occiput, Heart.C, Point Zero, Shen Men, Sympathetic Autonomic point.

Supplemental: Stomach, Adrenal Gland.C, Vagus nerve.

9.8.2 Depression

Primary: Antidepressant, Brain, Excitement point, Pineal Gland, Master Cerebral, Shen Men, Sympathetic Autonomic point.

Supplemental: Point Zero, Endocrine point, Master Oscillation, Occiput, External Genitals.C, External Genitals.E.

9.8.3 Irritability

Primary: Aggressivity, Master Cerebral, Point Zero, Shen Men, Thalamus point, Heart.C.

9.8.4 Mania

Primary: Mania point, Amygdala, Master Cerebral, Tranquilizer point, Point Zero, Shen Men.

9.8.5 Memory problems, poor concentration

Primary: Frontal Cortex, Hippocampus, Memory 1, Memory 2, Master Cerebral, Heart.C, Point Zero, Shen Men.

9.8.6 Neurasthenia, nervous exhaustion

Primary: Nervousness, Thalamus point, Occiput, Heart.C, Kidney.C, Shen Men, Tranquilizer point.

Supplemental: Point Zero, Master Cerebral, Brainstem, Stomach.

9.8.7 Nightmares, disturbing dreams

Primary: Pons, Psychosomatic Reactions 1, Psychosomatic Reactions 2, Nervousness, Master Cerebral, Thalamus point, Heart.C, Shen Men, Point Zero, Insomnia 1, Insomnia 2, Reticular Formation.

9.8.8 Obsessive–compulsiveness

Primary: Master Cerebral, Frontal Cortex, Point Zero, Shen Men, Thalamus point, Heart.C, Occiput.

9.8.9 Repressed emotional experiences

Primary: Psychosomatic Reactions 1, Psychosomatic Reactions 2, Hippocampus, Shen Men, Heart.C.

9.8.10 Schizophrenia and psychosis

Primary: Master Cerebral, Brain, Thalamus point, Occiput, Heart.C, Kidney.C, Stomach, Brainstem, Lesser Occipital nerve.

Supplemental: Point Zero, Shen Men, Nervousness, Forehead, Liver, Apex of Ear.

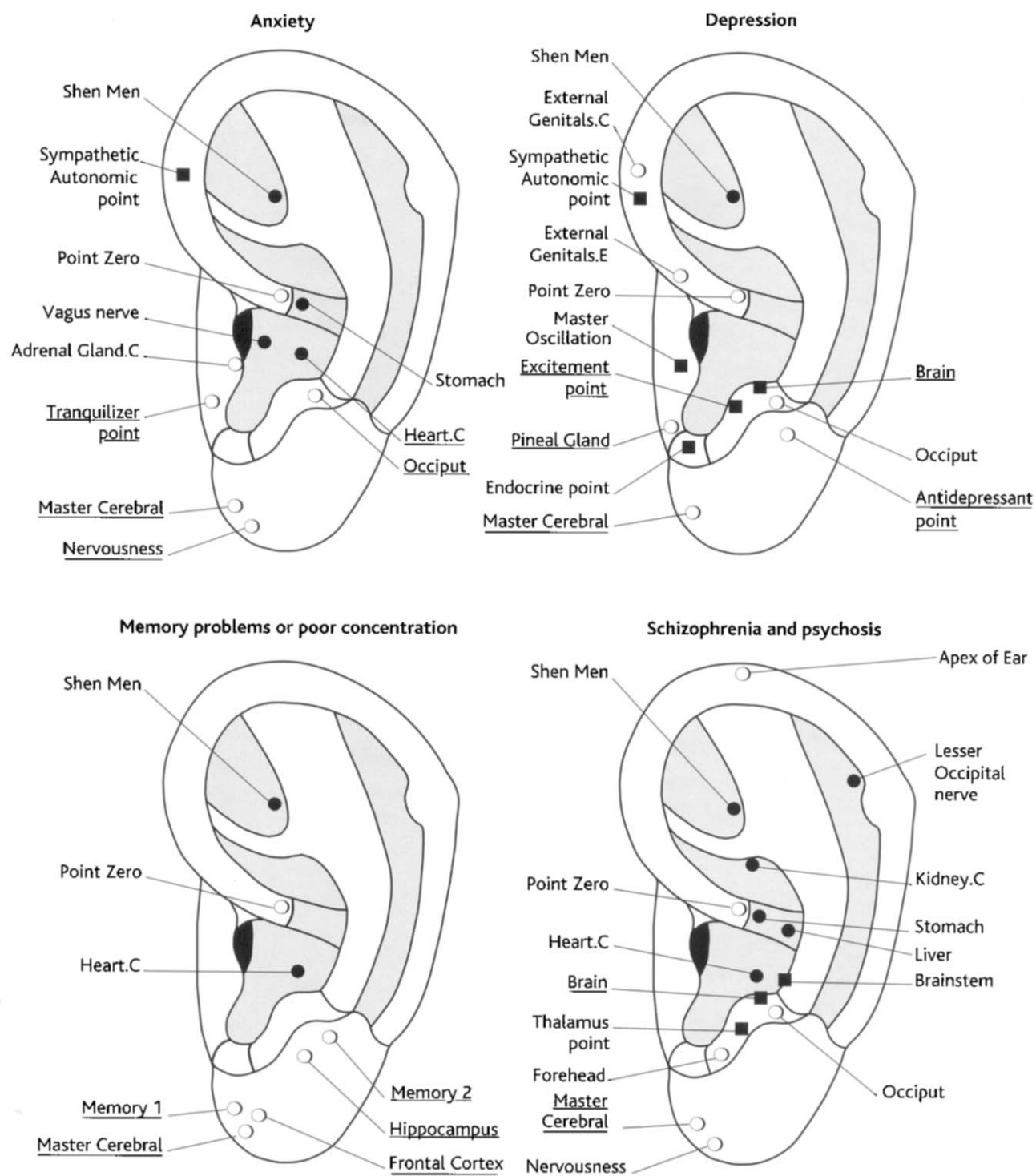


Figure 9.10 Psychological disorders treatment protocols.

9.9 Eyesight disorders (Figure 9.11)

9.9.1 Astigmatism

Primary: Eye, Eye Disorders 2, Optic nerve, Kidney.C, Liver, Occiput, Shen Men.

9.9.2 Blurred vision, poor eyesight

Primary: Eye, Eye Disorders 2, Eye Disorders 3, Optic nerve, Occipital Cortex.

Supplemental: Shen Men, Master Sensorial, Brain, Occiput, Kidney.C, Liver, Lung 2.

9.9.3 Conjunctivitis

Primary: Eye, Shen Men, Liver, Skin Disorders.C, Occiput, Adrenal Gland.C, Adrenal Gland.E.

9.9.4 Eye irritation

Primary: Eye Disorders 1, Eye Disorders 2, Shen Men, Endocrine point.

9.9.5 Glaucoma

Primary: Eye, Eye Disorders 1, Eye Disorders 2, Shen Men, Occiput, Kidney.C, Liver, Apex of Ear.

9.9.6 Myopia

Primary: Eye, Eye Disorders 2, Eye Disorders 3, Optic nerve, Occiput, Forehead, Shen Men, Kidney.C, Liver, Spleen.C, Apex of Ear.

9.9.7 Stye

Primary: Eye, Shen Men, Liver, Spleen.C, Spleen.E.

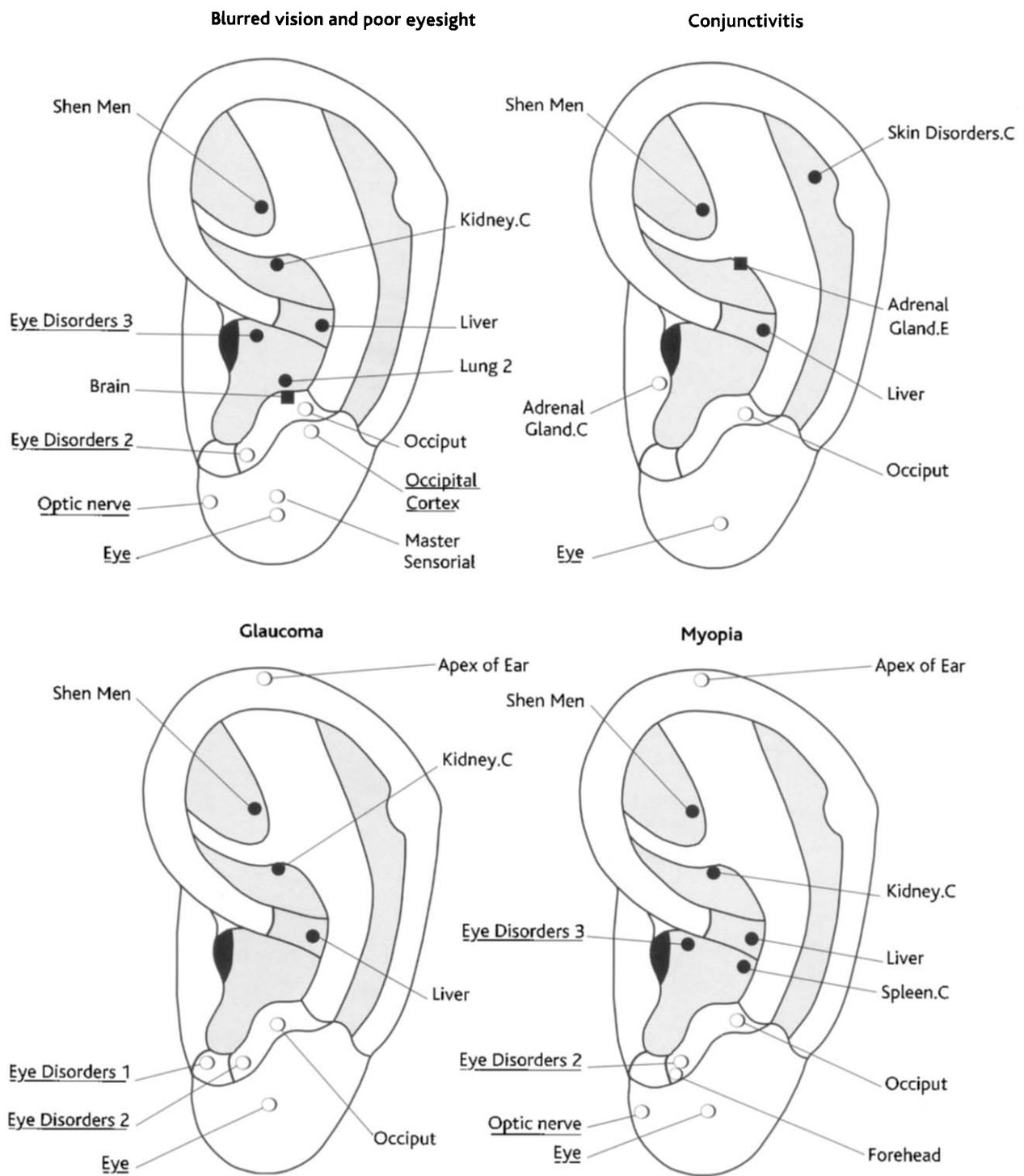


Figure 9.11 Eyesight disorders treatment protocols.

9.10 Hearing disorders (Figure 9.12)

9.10.1 Dizziness, vertigo

Primary: Dizziness point, Inner Ear.C, Inner Ear.E, Cerebellum, Occiput, Lesser Occipital nerve, Point Zero, Master Sensorial.

Supplemental: Shen Men, Thalamus point, Forehead, Liver, Kidney.C.

9.10.2 Ear infection, earache

Primary: Inner Ear.C, Inner Ear.E, External Ear.C, Kidney.C, Point Zero, Shen Men.

Supplemental: Master Oscillation, Master Cerebral, Adrenal Gland.C, Occiput, San Jiao, Apex of Ear.

9.10.3 Impaired hearing

Primary: Inner Ear.C, Inner Ear.E, External Ear.C, Kidney.C, Occiput, Point Zero, Shen Men.

9.10.4 Motion sickness, car sickness, sea sickness

Primary: Inner Ear.C, Inner Ear.E, Stomach, Occiput, Point Zero, Shen Men, Lesser Occipital nerve, Master Oscillation.

9.10.5 Mutism, stuttering, difficulty speaking

Primary: Mutism, Inner Ear.C, Tongue.C, Tongue.E, Kidney.C, Master Oscillation, Point Zero, Shen Men, Thalamus point, Heart.C.

Supplemental: External Ear.C, Master Cerebral.

9.10.6 Sensorineural deafness

Primary: Inner Ear.C, External Ear.C, Auditory nerve, Temporal Cortex, Auditory line, Adrenal Gland.C, Adrenal Gland.E, Kidney.C, Shen Men, Point Zero, Master Sensorial, Occiput, San Jiao.

Treat the four walls of the ear canal directly with a probe or needle, or fill the ear canal with saline and place a monopolar auricular probe into the saline. With either method, treat a range of frequencies, from 1 Hz to 320 Hz, stimulating each point at 150 μ A for 30 seconds.

Also treat active ear reflex points along the auditory line on the lobe inferior to the antitragus, and 8 points on the area of the skull which surrounds the ear. Patients suffering from deafness need to make a minimum commitment to 20 sessions of 30-minute treatments.

9.10.7 Sudden deafness

Primary: Inner Ear.C, Inner Ear.E, Brain, Brainstem, Point Zero, Shen Men, Thalamus point.

9.10.8 Tinnitus

Primary: Inner Ear.C, External Ear.C, Auditory nerve, Kidney.C, Point Zero, Shen Men, Master Sensorial, San Jiao.

Supplemental: Cervical Spine, Master Oscillation, Adrenal Gland.C, Adrenal Gland.E, Occiput, Shoulder, Lesser Occipital nerve.

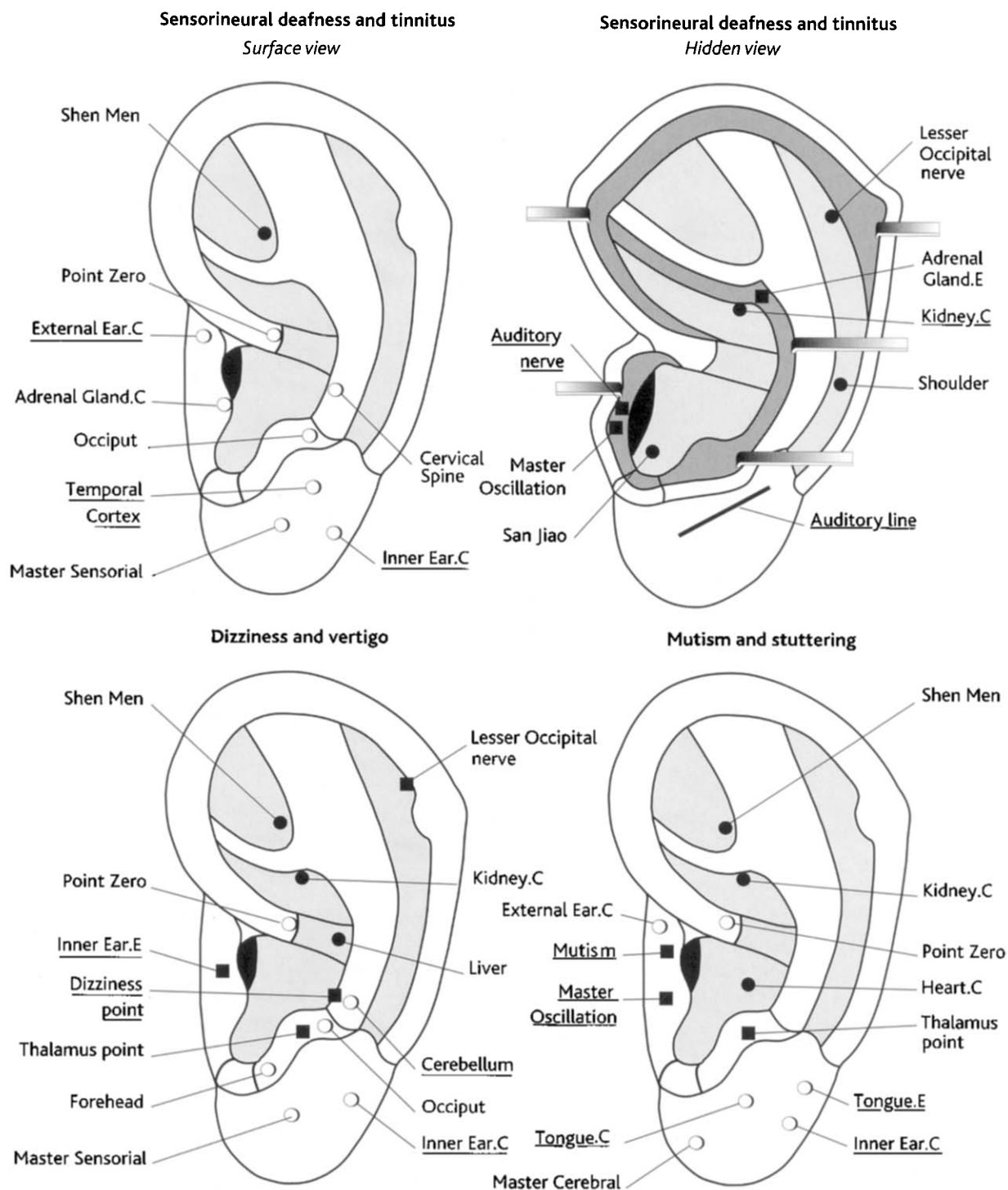


Figure 9.12 Hearing disorders treatment protocols.

9.11 Nose and throat disorders (Figure 9.13)

9.11.1 Allergic rhinitis

Primary: Inner Nose, Apex of Ear, Adrenal Gland.C, Forehead, Endocrine point, Lung 1, Lung 2, Kidney.C, Spleen.C, Allergy point, Diaphragm.C.

9.11.2 Broken nose

Primary: External Nose.C, External Nose.E, Point Zero, Shen Men, Thalamus point.

9.11.3 Hoarseness

Primary: Throat.C, Throat.E, Trachea, Point Zero, Shen Men, Endocrine point, Heart.C, Lung 1, Lung 2.

9.11.4 Laryngitis

Primary: Larynx.C, Larynx.E, Tonsil 1, Tonsil 2, Tonsil 3, Tonsil 4, Point Zero, Shen Men, Endocrine point, Palate, Lung 1, Lung 2.

9.11.5 Nose bleeding

Primary: Inner Nose, Forehead, Lung 1, Lung 2, Apex of Ear, Shen Men, Adrenal Gland.C.

9.11.6 Pharyngitis

Primary: Throat.C, Throat.E, Point Zero, Shen Men, Endocrine point, Lung 1, Lung 2, Adrenal Gland.C.

9.11.7 Rhinitis, running nose

Primary: Inner Nose, External Nose, Point Zero, Forehead, Kidney.C, Shen Men, Endocrine point, Adrenal Gland.C, Lung 1, Lung 2, Spleen.C, Allergy point.

9.11.8 Sneezing

Primary: Sneezing point, Inner Nose, Apex of Ear, Asthma, Antihistamine, Allergy point, Point Zero, Shen Men.

9.11.9 Sore throat

Primary: Throat.C, Throat.E, Mouth, Trachea, Tonsil 1, Tonsil 2, Tonsil 3, Tonsil 4.

Supplemental: Lung 1, Lung 2, Adrenal Gland.C, Adrenal Gland.E, Point Zero, Shen Men, Thalamus point, Prostaglandin 1, Prostaglandin 2, Master Oscillation.

9.11.10 Sunburned nose

Primary: External Nose.C, External Nose.E, Skin Disorder.C, Skin Disorder.E, Point Zero, Shen Men, Thalamus point, Lung 1, Lung 2.

9.11.11 Tonsillitis

Primary: Throat.C, Throat.E, Laryngitis.C, Palate, Tonsil 1, Tonsil 2, Tonsil 3, Tonsil 4.

Supplemental: Point Zero, Shen Men, Apex of Ear, Thyroid Gland.C, Thyroid Gland.E.

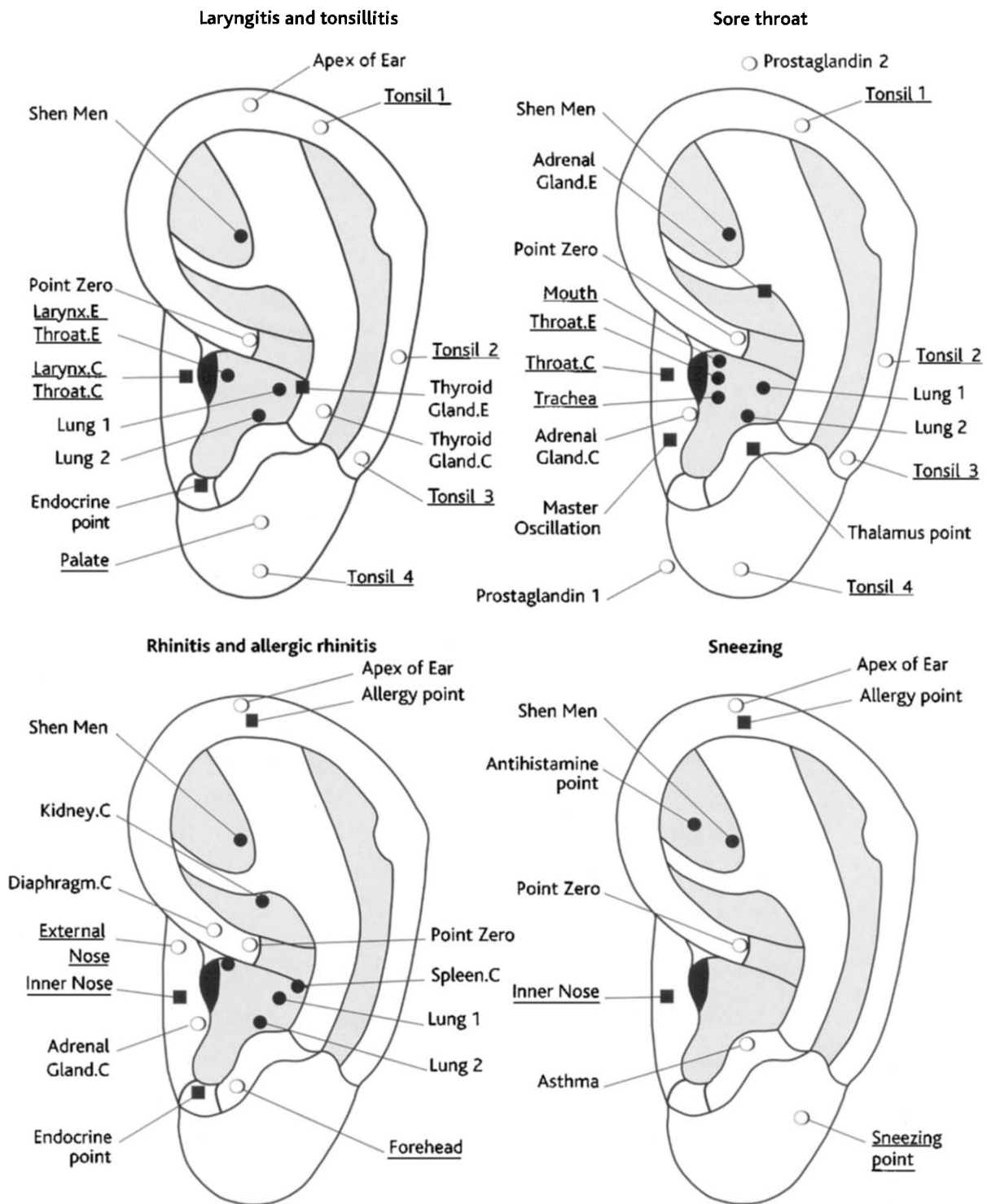


Figure 9.13 Nose and throat disorders treatment protocols.

9.12 Skin and hair disorders (Figure 9.14)

9.12.1 Acne

Primary: Face, Skin Disorder.C, Skin Disorder.E, Lung 1, Lung 2, Point Zero, Shen Men.

Supplemental: External Genitals.C, External Genitals.E, Gonadotropins, Endocrine point.

9.12.2 Boil, carbuncle

Primary: Corresponding body area, Lung 1, Lung 2, Occiput, Endocrine point, Point Zero, Shen Men, Adrenal Gland.C, Adrenal Gland.E.

9.12.3 Cold sores (herpes simplex)

Primary: Lips, Mouth, Lung 1, Lung 2, Occiput, Salivary Gland.C, Salivary Gland.E, Point Zero, Shen Men.

Supplemental: Adrenal Gland.C, Adrenal Gland.E, ACTH, Skin Disorder.C, Skin Disorder.E.

9.12.4 Dermatitis, hives, urticaria

Primary: Corresponding body area, Skin Disorder.C, Skin Disorder.E, Endocrine point, Shen Men.

Supplemental: Adrenal Gland.C, Kidney.C, Lung 1, Lung 2, Occiput, Point Zero, Master Sensorial, Thyroid Gland.C, Thyroid Gland.E, Apex of Ear.

9.12.5 Eczema, itching, pruritus

Primary: Corresponding body area, Skin Disorder.C, Skin Disorder.E, Lung 1, Lung 2.

Supplemental: Occiput, Large Intestines, Adrenal Gland.C, Point Zero, Shen Men, Endocrine point, Psychosomatic Reactions 1, Psychosomatic Reactions 2.

9.12.6 Frostbite

Primary: Corresponding body area, Occiput, Heat point, Adrenal Gland.C, Adrenal Gland.E.

Supplemental: Point Zero, Shen Men, Lung 1, Lung 2, Spleen.C, Spleen.E.

9.12.7 Hair loss, baldness, alopecia

Primary: Occiput, Endocrine point, Lung 1, Lung 2, Kidney.C, Point Zero, Shen Men.

9.12.8 Poison oak, poison ivy

Primary: Corresponding body area, Skin Disorder.C, Skin Disorder.E, Lung 1, Lung 2, Point Zero, Shen Men, Endocrine point, Apex of Ear, Allergy point.

9.12.9 Postherpetic neuralgia

Primary: Chest, Thoracic Spine, Skin Disorder.C, Skin Disorder.E, Point Zero, Shen Men, Endocrine point, Kidney.C.

9.12.10 Rosacea

Primary: External Nose.C, External Nose.E, Lung 1, Lung 2, Endocrine point, Adrenal Gland.C, Adrenal Gland.E, Spleen.C, Apex of Ear.

9.12.11 Shingles (herpes zoster)

Primary: Corresponding area, Chest, Thoracic Spine, Skin Disorder.C, Skin Disorder.E, Endocrine point, Lung 1, Lung 2, Occiput, Adrenal Gland.C, Adrenal Gland.E, Kidney.C.

Supplemental: Point Zero, Shen Men, Anterior Pituitary, Apex of Ear, Allergy point.

9.12.12 Sunburn

Primary: Corresponding body area, Skin Disorder.C, Skin Disorder.E, Thalamus point, Kidney.C.

Supplemental: Shen Men, Endocrine point, Adrenal Gland.C, Lung 1, Lung 2.

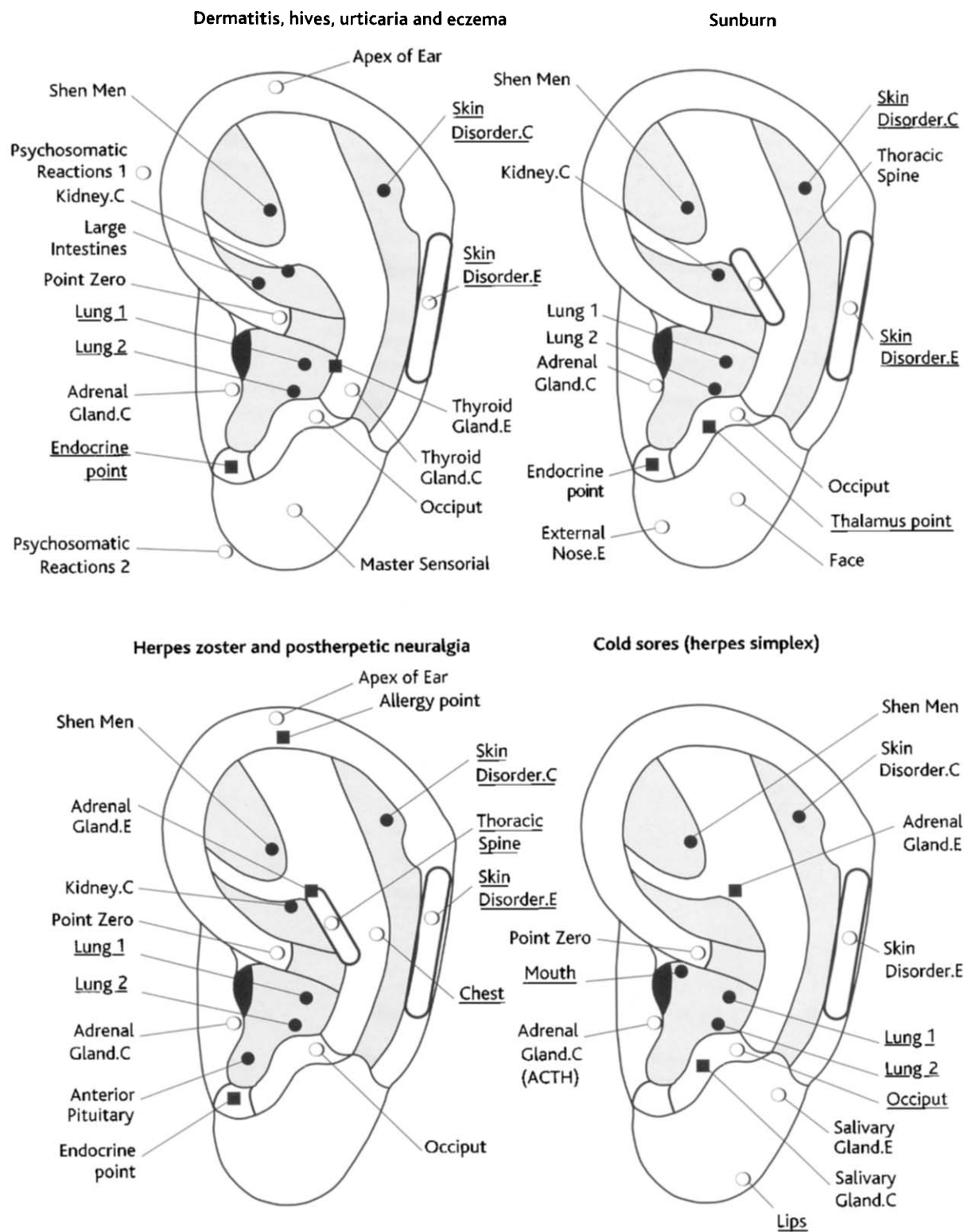


Figure 9.14 Skin and hair disorders treatment protocols.

9.13 Heart and circulatory disorders (Figure 9.15)

9.13.1 Anemia

Primary: Heart.C1, Heart.C2, Heart.E, Liver, Spleen.C, Spleen.E, Endocrine point, Stomach, Small Intestines, Diaphragm.C, Kidney.C.

9.13.2 Angina pain

Primary: Heart.C1, Heart.C2, Heart.E, Vagus nerve, Sympathetic Autonomic point, Point Zero, Shen Men, Thalamus point, Lung 1, Lung 2, Stomach.

9.13.3 Bradycardia, pulselessness

Primary: Heart.C1, Heart.C2, Heart.E, Sympathetic Autonomic point, Thalamus point, Kidney.C, Liver, Adrenal Gland.C.

9.13.4 Cardiac arrest

Primary: Heart.C1, Heart.C2, Heart.E, Adrenal Gland.C, Adrenal Gland.E, Shen Men, Thalamus point, Liver, Spleen.C, Spleen.E.

9.13.5 Cardiac arrhythmias

Primary: Heart.C1, Heart.C2, Heart.E, Chest, Sympathetic Autonomic point, Shen Men, Vagus nerve, Adrenal Gland.C, Adrenal Gland.E, Thalamus point.

Supplemental: Point Zero, Kidney.C, Liver, Stomach, Small Intestines.

9.13.6 Heart attack, coronary thrombosis

Primary: Heart.C1, Heart.C2, Heart.E, Sympathetic Autonomic point, Endocrine point, Point Zero, Shen Men, Thalamus point, Small Intestines, Kidney.C, ACTH.

9.13.7 Hypertension (high blood pressure)

Primary: Hypertension 1, Hypertension 2, Hypertensive groove, Heart.C1, Heart.C2, Heart.E, Marvelous point, Sympathetic Autonomic point, Point Zero, Shen Men, Sympathetic chain.

Supplemental: Vagus nerve, Thalamus point, Adrenal Gland.C, Apex of Ear.

9.13.8 Hypotension (low blood pressure)

Primary: Hypotension, Heart.C, Heart.E, Vagus nerve, Thalamus point, Endocrine point, Shen Men, Sympathetic Autonomic point, Point Zero.

Supplemental: Adrenal Gland.C, Liver, Spleen.C, Spleen.E.

9.13.9 Lymphatic disorders

Primary: Spleen.C, Spleen.E, Thymus Gland, Point Zero, Shen Men, Vitality point.

9.13.10 Myocarditis

Primary: Heart.C1, Heart.C2, Heart.E, Sympathetic Autonomic point, Shen Men, Occiput, Small Intestines, Spleen.C.

9.13.11 Premature ventricular contraction

Primary: Heart.C1, Heart.C2, Heart.E, Sympathetic Autonomic point, Thalamus point, Small Intestines.

9.13.12 Tachycardia, heart palpitations

Primary: Heart.C1, Heart.C2, Heart.E, Sympathetic Autonomic point, Point Zero, Shen Men, Thalamus point, Small Intestines, Adrenal Gland.C, Adrenal Gland.E.

9.13.13 Raynaud's disease, vascular circulation problems, cold hands, cold feet

Primary: Heart.C1, Heart.C2, Heart.E, Heat point, Sympathetic Autonomic point, Endocrine point, Adrenal Gland.C, Adrenal Gland.E, Lesser Occipital nerve.

Supplemental: Shen Men, Thalamus point, Sympathetic chain, Occiput, Liver, Spleen.C.

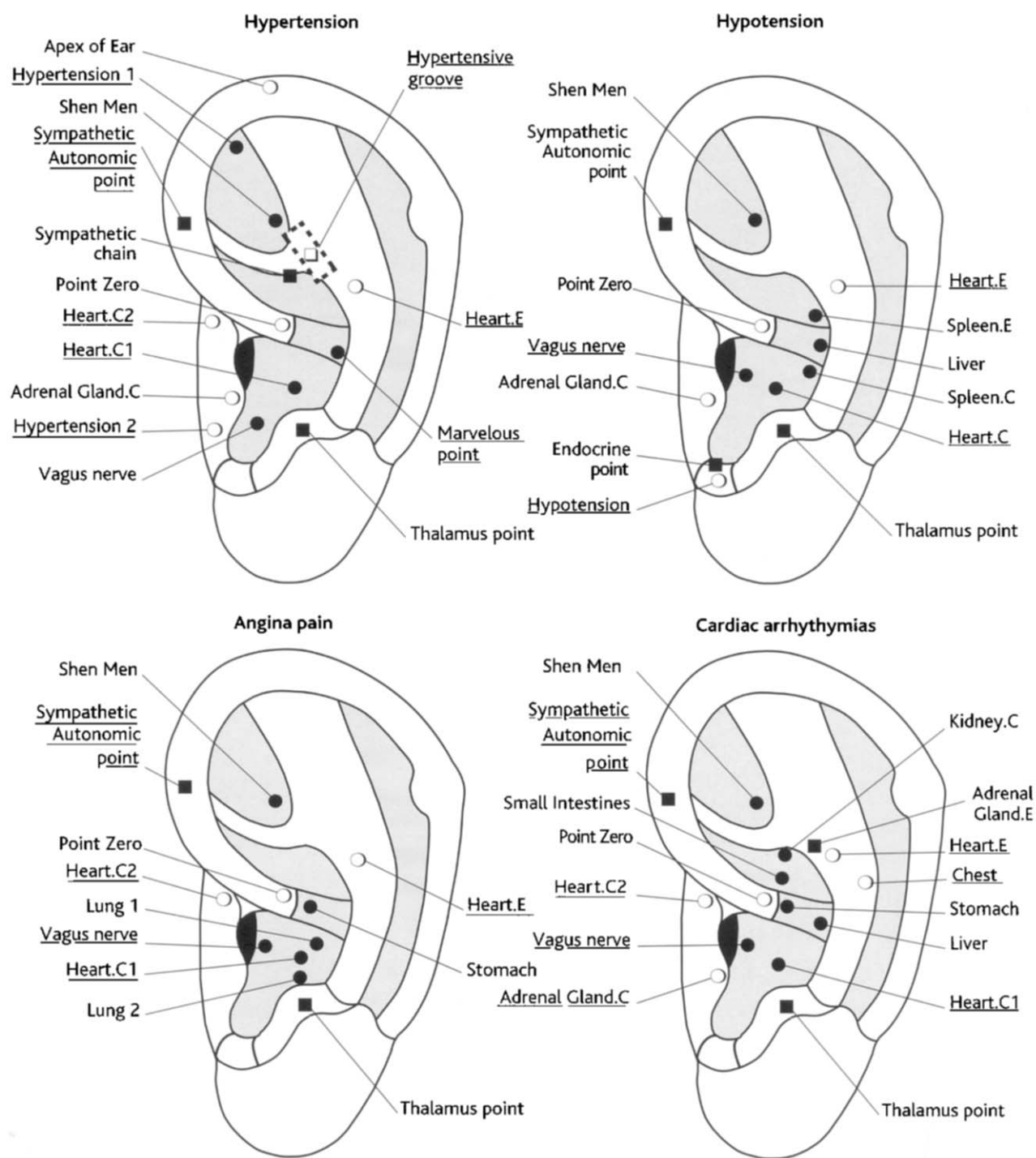


Figure 9.15 Heart and circulatory disorders treatment protocols.

9.14 Lung and respiratory disorders (Figure 9.16)

9.14.1 Asthma

Primary: Asthma, Antihistamine, Lung 1, Lung 2, Bronchi, Sympathetic Autonomic point, Point Zero, Shen Men, Allergy point, Apex of Ear.

Supplemental: Adrenal Gland.C, Tranquilizer point, Master Cerebral, Kidney.C, Occiput, Spleen.C, Spleen.E, Psychosomatic Reactions 1.

9.14.2 Bronchitis

Primary: Bronchi, Trachea, Asthma, Antihistamine, Shen Men, Point Zero, Adrenal Gland.C, Adrenal Gland.E, Sympathetic Autonomic point, Occiput.

9.14.3 Bronchopneumonia

Primary: Asthma, Antihistamine, Bronchi, Point Zero, Shen Men, Sympathetic Autonomic point, Adrenal Gland.C, Adrenal Gland.E, Endocrine point, Occiput.

9.14.4 Chest pain, chest heaviness

Primary: Lung 1, Lung 2, Chest, Heart.C, Asthma, Adrenal Gland.C, Sympathetic Autonomic point, Point Zero, Shen Men.

9.14.5 Cough

Primary: Asthma, Antihistamine, Throat.C, Throat.E, Lung 1, Lung 2, Adrenal Gland.C, Adrenal Gland.E.

Supplemental: Sympathetic Autonomic point, Shen Men, Point Zero, Trachea, Occiput, Spleen.C, Spleen.E.

9.14.6 Emphysema

Primary: Lung 1, Lung 2, Bronchi, Chest, Asthma, Antihistamine, Point Zero, Shen Men, Sympathetic Autonomic point, Adrenal Gland.C, Adrenal Gland.E, Occiput.

9.14.7 Hiccups

Primary: Diaphragm.C, Diaphragm.E, Parasympathetic Cranial nerves, San Jiao.

Supplemental: Point Zero, Shen Men, Thalamus point, Esophagus, Liver, Occiput.

9.14.8 Pleurisy

Primary: Lung 1, Lung 2, Chest, Point Zero, Shen Men, Endocrine point, Adrenal Gland.C, Adrenal Gland.E, San Jiao.

9.14.9 Pneumonia

Primary: Lung 1, Lung 2, Chest, Adrenal Gland.C, Adrenal Gland.E, Endocrine point, Point Zero, Shen Men, Thalamus point, San Jiao.

9.14.10 Shortness of breath, breathing difficulties

Primary: Inner Nose, Lung 1, Lung 2, Chest, Forehead, Adrenal Gland.C, Adrenal Gland.E, Shen Men.

9.14.11 Tuberculosis

Primary: Tuberculosis, Lung 1, Lung 2, Point Zero, Shen Men.

9.14.12 Whooping cough

Primary: Asthma, Antihistamine, Bronchi, Adrenal Gland.C, Adrenal Gland.E, Sympathetic Autonomic point, Occiput.

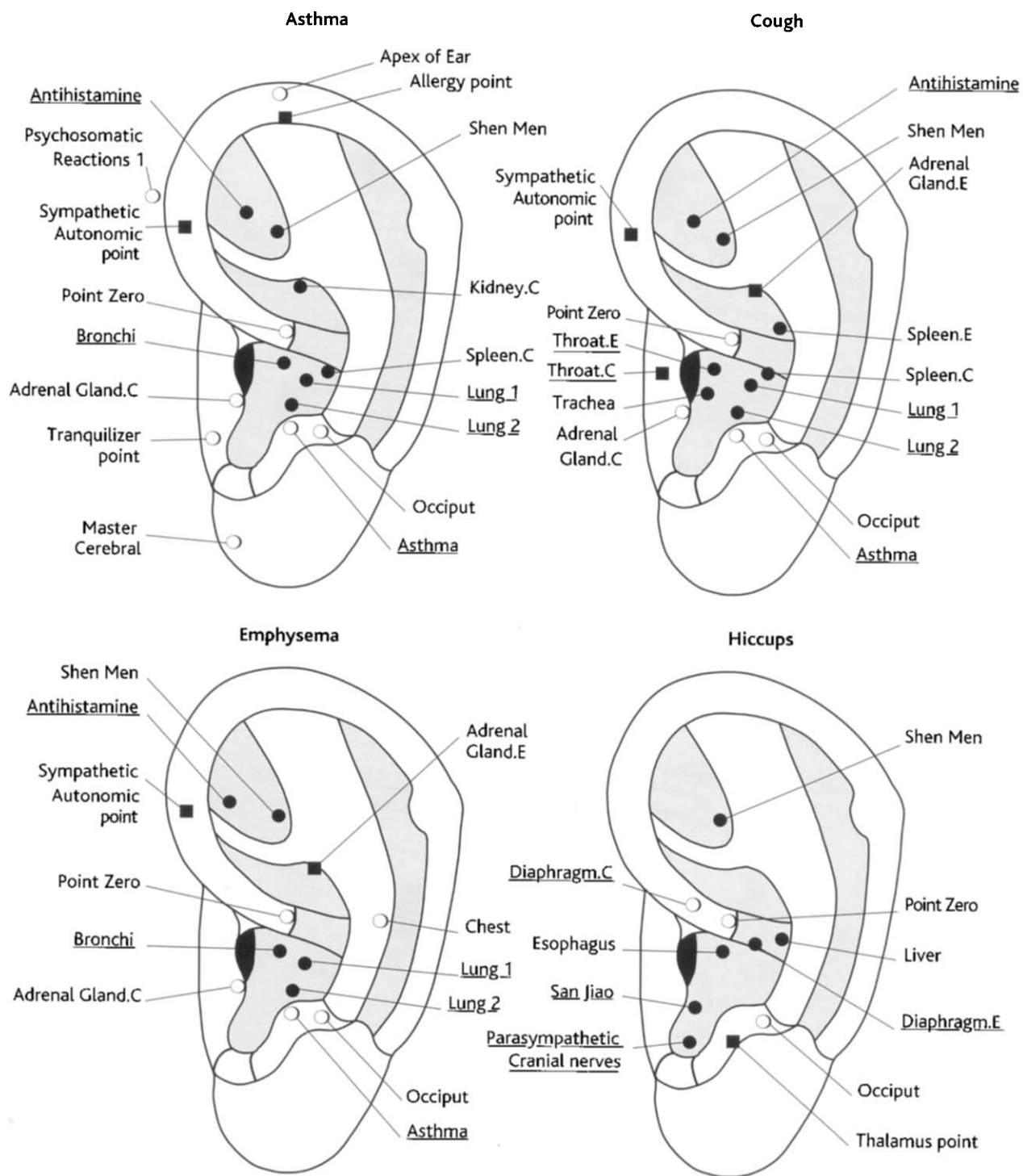


Figure 9.16 Lung and respiratory disorders treatment protocols.

9.15 Gastrointestinal and digestive disorders (Figure 9.17)

9.15.1 Abdominal distension

Primary: Stomach, Small Intestines, Large Intestines, Abdomen, Pelvic Girdle, Ascites.

Supplemental: Solar plexus, Point Zero, Shen Men, Sympathetic Autonomic point, San Jiao.

9.15.2 Colitis, enteritis

Primary: Small Intestines, Large Intestines, Point Zero, Shen Men, Sympathetic Autonomic point, Stomach.

Supplemental: Rectum.C, Shen Men, Spleen.C, Occiput.

9.15.3 Constipation

Primary: Constipation, Large Intestines, Rectum.C, Rectum.E, Omega 1, Abdomen.

Supplemental: Thalamus point, San Jiao, Stomach, Spleen.C, Sympathetic Autonomic point.

9.15.4 Diarrhea

Primary: Small Intestines, Large Intestines, Point Zero, Shen Men, Sympathetic Autonomic point.

Supplemental: Rectum.C, Rectum.E, Omega 1, Spleen.C, Kidney.C, Occiput.

9.15.5 Dysentery

Primary: Small Intestines, Large Intestines, Rectum.C, Shen Men, Sympathetic Autonomic point.

Supplemental: Endocrine point, Lung 1, Lung 2, Occiput, Adrenal Gland.C, Kidney.C, Spleen.C, Vitality point.

9.15.6 Flatulence, ascites

Primary: Ascites, Large Intestines, Small Intestines, Abdomen, Sympathetic Autonomic point, San Jiao.

9.15.7 Fecal incontinence

Primary: Rectum.C, Rectum.E, Large Intestines, Shen Men.

9.15.8 Gastritis, gastric spasm

Primary: Stomach, Abdomen, Point Zero, Shen Men, Sympathetic Autonomic point, Spleen.C.

Supplemental: Large Intestines, Liver, Lung 1, Lung 2, Lesser Occipital nerve.

9.15.9 Hemorrhoids

Primary: Hemorrhoids.C1, Hemorrhoids.C2, Rectum.C, Rectum.E, Large Intestines, Spleen.C, Thalamus point, Point Zero, Shen Men, Adrenal Gland.C.

9.15.10 Indigestion

Primary: Stomach, Cardiac Orifice, Small Intestines, Sympathetic Autonomic point, Pancreas, Spleen.C, Shen Men, Point Zero, Omega 1, Large Intestines, Abdomen, San Jiao, Liver, Occiput.

9.15.11 Irritable bowel syndrome

Primary: Small Intestines, Large Intestines, Rectum.C, Rectum.E, Abdomen, Omega 1, Constipation, Point Zero, Shen Men, Stomach.

Supplemental: Sympathetic Autonomic point, Pancreas, Occiput, San Jiao.

9.15.12 Nausea, vomiting

Primary: Stomach, Esophagus, Omega 1, Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point, Occiput.

9.15.13 Stomach ulcer, duodenal ulcer

Primary: Stomach, Duodenum, Small Intestines, Abdomen, Shen Men, Sympathetic Autonomic point, Point Zero.

Supplemental: Psychosomatic Reactions 1, Thalamus point, Master Cerebral, Aggressivity, Occiput, Spleen.C, Lung 1, Lung 2.

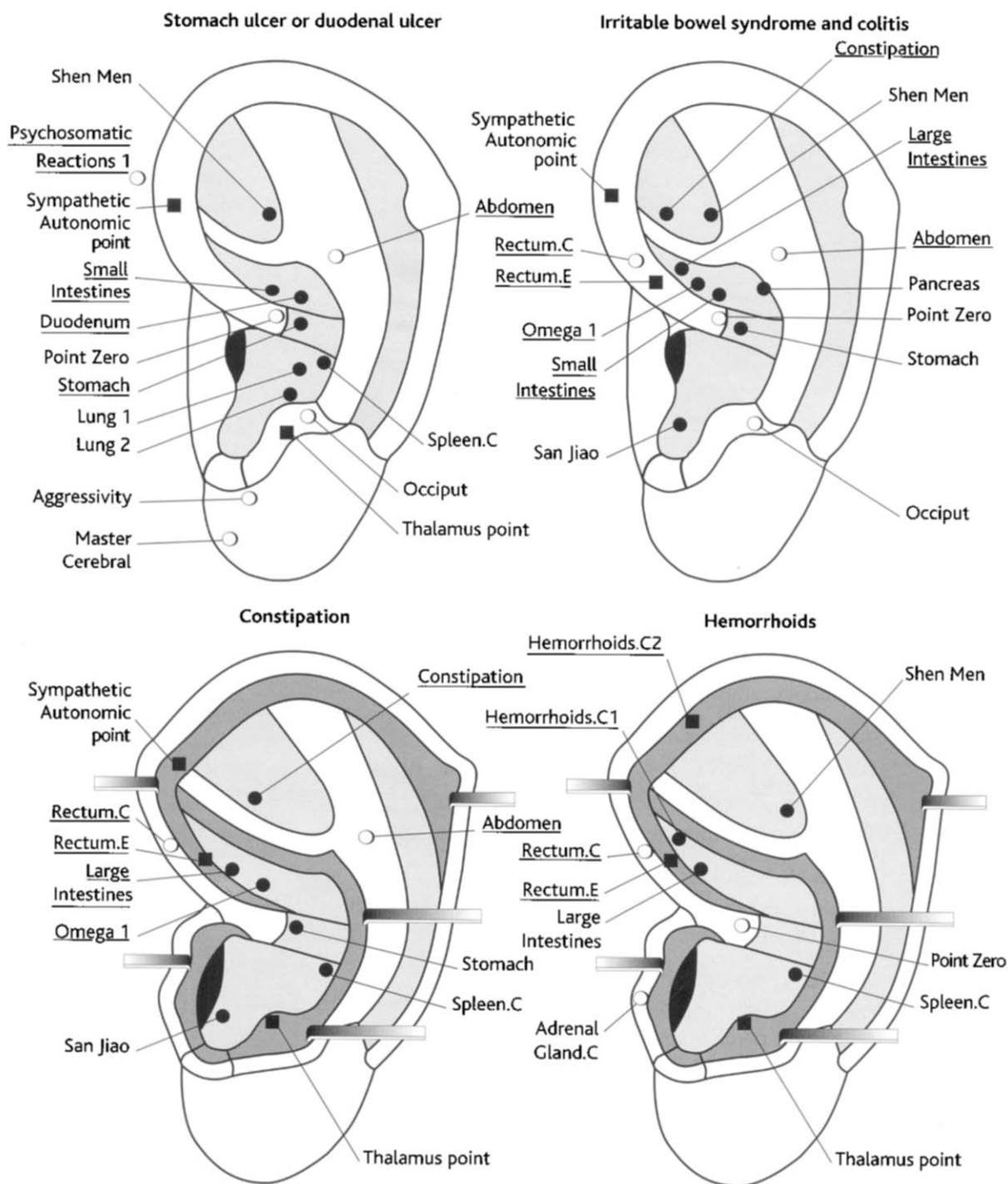


Figure 9.17 *Gastrointestinal and digestive disorders treatment protocols.*

9.16 Kidney and urinary disorders (Figure 9.18)

9.16.1 Antidiuresis, water imbalance

Primary: Bladder, Kidney.C, Kidney.E, San Jiao, Posterior Pituitary, Occiput.

Supplemental: Point Zero, Shen Men, Sympathetic Autonomic point, Heart.C, Spleen.C, Spleen.E, Adrenal Gland.C, Adrenal Gland.E.

9.16.2 Bedwetting

Primary: Bladder, Kidney.C, Kidney.E, Urethra.C, Urethra.E, Occiput, Excitement, Shen Men.

Supplemental: Point Zero, Thalamus point, Brain, Hypogastric nerve, Spleen.C, Liver, San Jiao.

9.16.3 Bladder control problems

Primary: Bladder, Kidney.C, Kidney.E, Urethra.C, Urethra.E, Ovaries or Testes.C, Ovaries or Testes.E, Brain, Thalamus point, Shen Men, Point Zero, Spleen.C, Liver.

9.16.4 Diabetes insipidus

Primary: Kidney.C, Kidney.E, Bladder, Urethra.C, Urethra.E, Thirst point, Brain, Posterior Pituitary, Sympathetic Autonomic point, Adrenal Gland.C, Adrenal Gland.E, Spleen.E.

Supplemental: Point Zero, Shen Men, Endocrine point, Spleen.C, Liver.

9.16.5 Frequent urination, urination problems

Primary: Kidney.C, Kidney.E, Bladder, Urethra.C, Urethra.E, Excitement point, Thalamus point.

Supplemental: Endocrine point, Point Zero, Shen Men, Adrenal Gland.C, Adrenal Gland.E.

9.16.6 Kidney pyelitis

Primary: Kidney.C, Kidney.E, Bladder, Urethra.C, Urethra.E, Point Zero, Shen Men, Thalamus point, Adrenal Gland.C, Adrenal Gland.E, Spleen.C, Liver.

9.16.7 Kidney stones

Primary: Kidney.C, Kidney.E, Ureter.C, Ureter.E, Bladder, Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point.

9.16.8 Nephritis

Primary: Nephritis point, Kidney.C, Kidney.E, Bladder, Occiput, Endocrine point, Sympathetic Autonomic point, Adrenal Gland.C, Adrenal Gland.E, Spleen.C, Liver.

Supplemental: Shen Men, Point Zero, Spleen.E, Thalamus point.

9.16.9 Uresiestesis

Primary: Urethra.C, Urethra.E, Bladder, Kidney.C, Kidney.E, Shen Men, Sympathetic Autonomic point, Thalamus point, External Genitals.C, External Genitals.E.

9.16.10 Urinary disorders

Primary: Kidney.C, Kidney.E, Bladder, Ureter.C, Ureter.E, Urethra.C, Urethra.E, Sympathetic Autonomic point, Shen Men, Occiput.

Supplemental: External Genitals.C, External Genitals.E, Adrenal Gland.C, Adrenal Gland.E.

9.16.11 Urinary incontinence, urinary retention

Primary: Kidney.C, Kidney.E, Bladder, Urethra.C, Urethra.E, Ureter.C, Ureter.E, Endocrine point, External Genitals.C, External Genitals.E, San Jiao.

9.16.12 Urinary infection, cystitis

Primary: Bladder, Urethra.C, Urethra.E, Ureter.C, Ureter.E, Kidney.C, Kidney.E, Shen Men, Occiput.

Supplemental: Point Zero, Sympathetic Autonomic point, Adrenal Gland.C, Adrenal Gland.E.

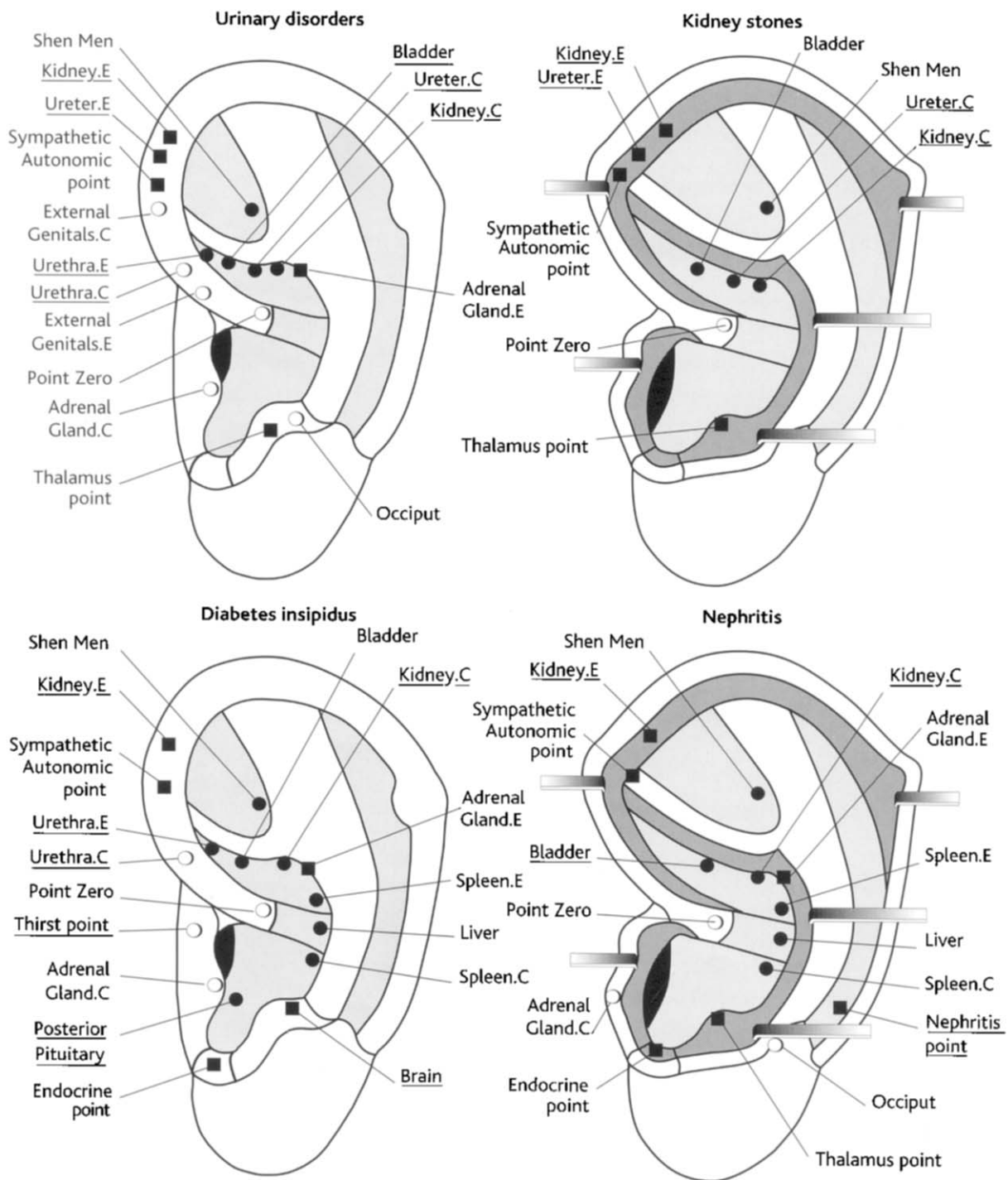


Figure 9.18 Kidney and urinary disorders treatment protocols.

9.17 Abdominal organ disorders (Figure 9.19)

9.17.1 Appendicitis

Primary: Appendix, Appendix Disorder 1, Appendix Disorder 2, Appendix Disorder 3, Large Intestines, Sympathetic Autonomic point.

Supplemental: Abdomen, San Jiao, Point Zero, Shen Men, Thalamus point.

9.17.2 Cirrhosis

Primary: Hepatitis, Liver, Liver Yang 1, Liver Yang 2, Sympathetic Autonomic point, Spleen.C, Shen Men.

Supplemental: Gall Bladder, Stomach, Ovaries or Testes.C, Ovaries or Testes.E.

9.17.3 Diabetes mellitus

Primary: Pancreas, Pancreatitis, Brain, San Jiao, Appetite Control, Point Zero, Shen Men, Endocrine point, Liver, Spleen.C.

9.17.4 Edema

Primary: Kidney.C, Kidney.E, Bladder, Heart.C, Liver, Sympathetic Autonomic point, Endocrine point.

9.17.5 Gall stones, gall bladder inflammation

Primary: Gall Bladder, Endocrine point, Point Zero, Shen Men, Sympathetic Autonomic point, Liver, Lung 1, Lung 2, San Jiao.

9.17.6 Hepatitis

Primary: Hepatitis 1, Liver, Liver Yang 1, Liver Yang 2, Point Zero, Shen Men, Thalamus point, Sympathetic Autonomic point, Abdomen, San Jiao, Adrenal Gland.C.

Supplemental: Endocrine point, Kidney.C, Gall Bladder, Stomach.

9.17.7 Hernia

Primary: Abdomen, Large Intestines, Prostate.C, Prostate.E, Point Zero, Shen Men, Endocrine point, Thalamus point, Spleen.C.

9.17.8 Hypoglycemia

Primary: Pancreas, Stomach, Sympathetic Autonomic point, Thalamus point, Adrenal Gland.C, Kidney.C, Kidney.E, Liver, Point Zero, Shen Men, Heart.C, Spleen.C, Spleen.E.

9.17.9 Jaundice

Primary: Hepatitis, Liver, Liver Yang 1, Liver Yang 2, Sympathetic Autonomic point, Spleen.C.

Supplemental: Gall Bladder, Stomach, Ovaries or Testes.C, Ovaries or Testes.E.

9.17.10 Liver dysfunction

Primary: Liver, Liver Yang 1, Liver Yang 2, Sympathetic Autonomic point, Endocrine point, Adrenal Gland.C.

Supplemental: Point Zero, Shen Men, Spleen.C, Spleen.E, Kidney.C, Kidney.E, Gall Bladder, Stomach, Ovaries or Testes.C, Ovaries or Testes.E.

9.17.11 Pancreatitis

Primary: Pancreas, Pancreatitis, Point Zero, Shen Men, Endocrine point, Sympathetic Autonomic point.

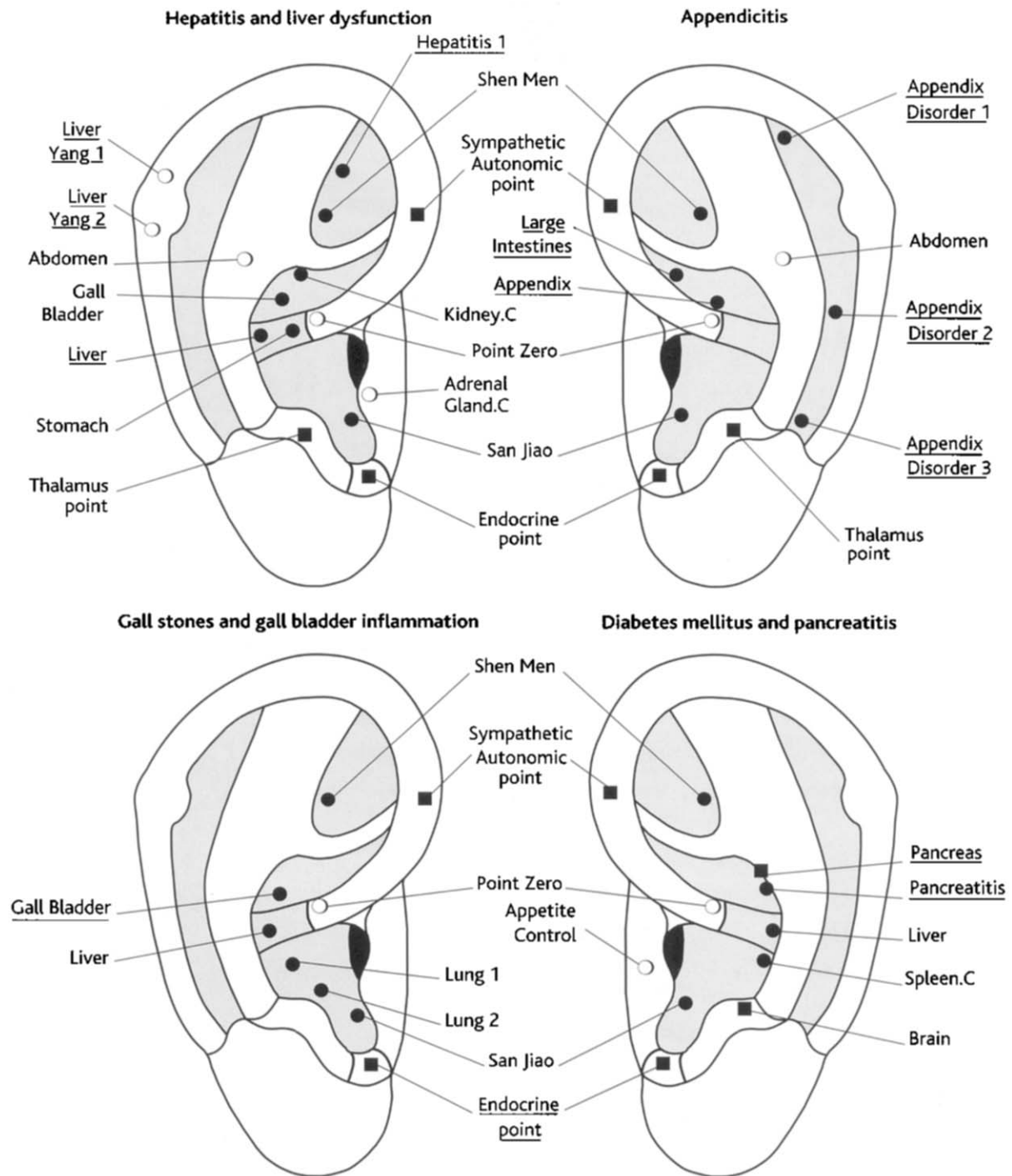


Figure 9.19 Abdominal organ disorders treatment protocols.

9.18 Gynecological and menstrual disorders (Figure 9.20)

9.18.1 Breast tenderness

Primary: Mammary Gland.C, Mammary Gland.E, Chest, Endocrine point, Shen Men, Thalamus point.

Supplemental: Point Zero, Adrenal Gland.C, Adrenal Gland.E, Brain, Occiput.

9.18.2 Breast tumor, ovarian cancer

Primary: Mammary Gland.C, Mammary Gland.E, Chest, Ovary.C, Ovary.E, Shen Men.

Supplemental: Point Zero, Endocrine point, Thalamus point, Thymus Gland.E, Vitality point.

9.18.3 Dysmenorrhea, irregular menstruation

Primary: Uterus.C, Uterus.E, Ovary.C, Ovary.E, Abdomen, Endocrine point, External Genitals.C, External Genitals.E, Prostaglandin 1, Prostaglandin 2.

Supplemental: Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point, Adrenal Gland.C, Brain, Kidney.C.

9.18.4 Endometriosis

Primary: Uterus.C, Uterus.E, Ovary.C, Ovary.E, Shen Men, Endocrine point, Point Zero, Abdomen, Adrenal Gland.C, Adrenal Gland.E.

9.18.5 Infertility

Primary: Uterus.C, Uterus.E, Ovary.C, Ovary.E, Point Zero, Shen Men, External Genitals.C, External Genitals.E, Endocrine point, Adrenal Gland.C, Kidney.C, Abdomen, Brain.

9.18.6 Inflammation of uterine lining, uterine prolapse

Primary: Uterus.C, Uterus.E, Ovary.C, Ovary.E, Gonadotropins, Pelvic Girdle, Endocrine point.

Supplemental: External Genitals.C, External Genitals.E, Lung 1, Lung 2.

9.18.7 Labor induction

Primary: Uterus.C, Uterus.E, Abdomen, Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point, Lumbar Spine, Spleen.C, Spleen.E.

9.18.8 Lactation stimulation

Primary: Prolactin, Mammary Gland.C, Mammary Gland.E, Endocrine point, Spleen.C, Kidney.C.

9.18.9 Mammary gland swelling

Primary: Mammary Gland.C, Mammary Gland.E, Chest, Endocrine point, Adrenal Gland.C.

9.18.10 Menopause

Primary: Ovary.C, Ovary.E, Uterus.C, Uterus.E, Endocrine point, Shen Men, Kidney.C, Liver.

9.18.11 Postpartum pain

Primary: Uterus.C, Uterus.E, Abdomen, External Genitals.C, External Genitals.E, Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point, Lumbar Spine, Spleen.C.

9.18.12 Premenstrual syndrome

Primary: Uterus.C, Uterus.E, Ovary.C, Ovary.E, Endocrine point, Shen Men.

Supplemental: Point Zero, Sympathetic Autonomic point, Thalamus point, Adrenal Gland.C, Brain, Kidney.C, Abdomen.

9.18.13 Vaginismus

Primary: Vagina, Ovary.C, Ovary.E, Point Zero, Shen Men, Endocrine point.

Supplemental: Adrenal Gland.C, Lung 1, Lung 2, Brain, Occiput, Kidney.C, Abdomen.

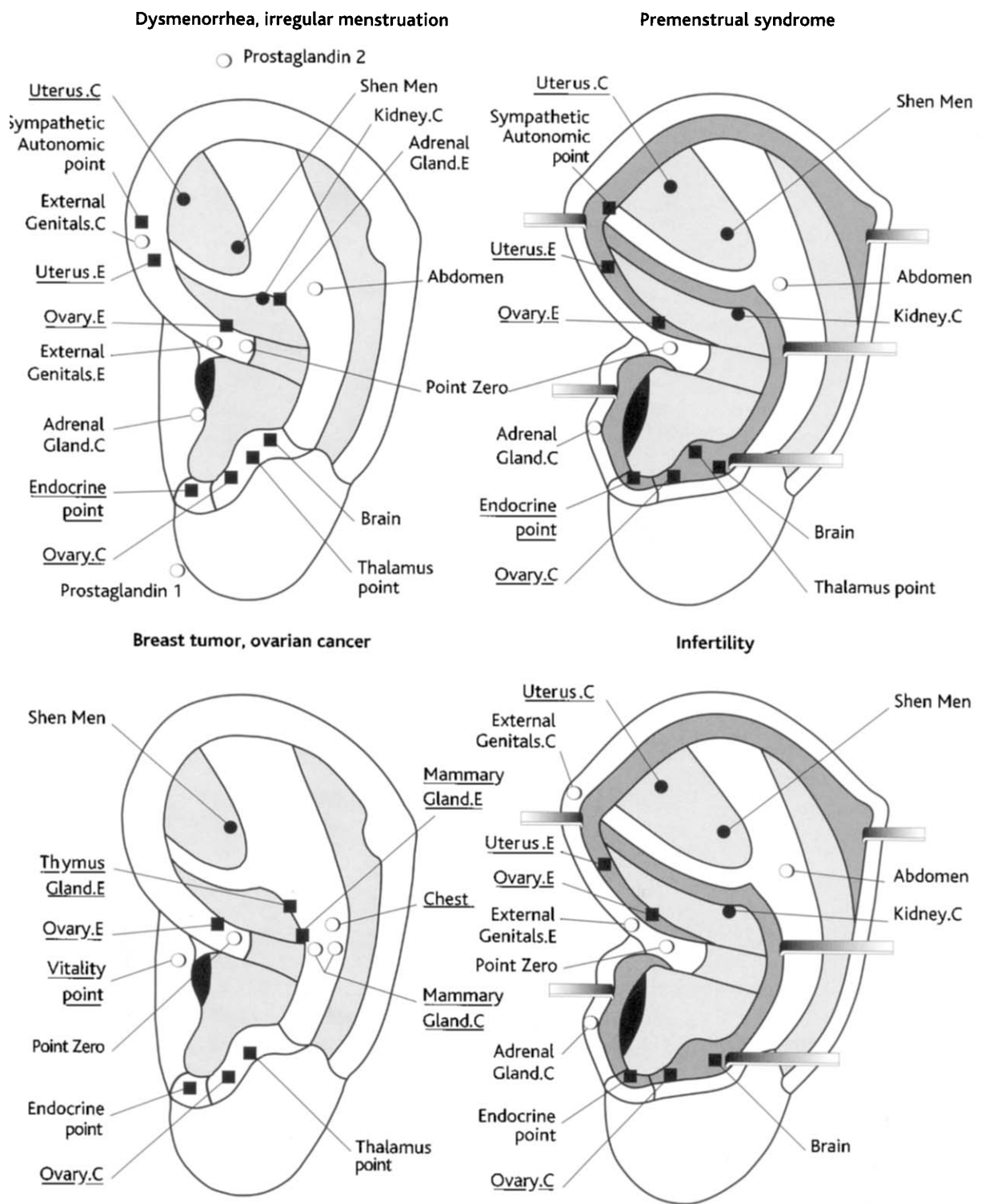


Figure 9.20 *Gynecological and menstrual disorders treatment protocols.*

9.19 Glandular disorders and sexual dysfunctions (Figure 9.21)

9.19.1 Calcium metabolism

Primary: Parathyroid Gland, Parathormone, Endocrine point, Shen Men.

9.19.2 Dwarfism

Primary: Anterior Pituitary, Kidney.C, Kidney.E, Point Zero, Shen Men, Endocrine point.

Supplemental: Ovaries or Testes.C, Ovaries or Testes.E, Brain.

9.19.3 Goiter

Primary: Thyroid Gland.C, Thyroid Gland.E, Thyrotropin, Point Zero, Shen Men, Endocrine point.

9.19.4 Hypergonadism, hypogonadism

Primary: Ovaries or Testes.C, Ovary or Testes.E, Point Zero, Shen Men, Endocrine point, Brain.

9.19.5 Hyperthyroidism, hypothyroidism

Primary: Thyroid Gland.C, Thyroid Gland.E, Thyrotropin, Point Zero, Shen Men, Endocrine point, Brain, Master Oscillation, Apex of Ear.

9.19.6 Impotency, frigidity, lacking sexual desire

Primary: Sexual Desire, External Genitals.C, External Genitals.E, Ovaries or Testes.C, Ovaries or Testes.E, Uterus.C, Uterus.E, Point Zero, Excitement point.

Supplemental: Shen Men, Brain, Sympathetic Autonomic point, Endocrine point, Master Oscillation, Master Cerebral, Kidney.C, Pelvic Girdle, Forehead.

9.19.7 Premature ejaculation

Primary: Sexual Compulsion, Testes.C, Testes.E, External Genitals.C, External Genitals.E, Thalamus point.

Supplemental: Shen Men, Point Zero, Endocrine point.

9.19.8 Prostatitis

Primary: Prostate.C, Prostate.E, Testes.C, Testes.E, Pelvic Girdle, Shen Men, Endocrine point.

Supplemental: Point Zero, Adrenal Gland.C, Bladder, Occiput, Skin Disorder.C, Skin Disorder.E.

9.19.9 Scrotal rash

Primary: External Genitals.C, External Genitals.E, Skin Disorder.C, Skin Disorder.E, Master Sensorial.

9.19.10 Sexual compulsion

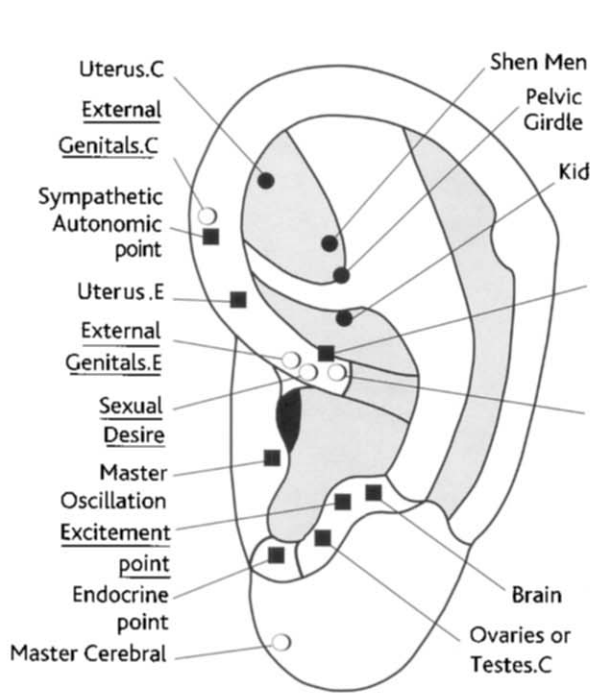
Primary: Sexual Compulsion, Aggressivity, Excitement point, Ovaries or Testes.C, Ovaries or Testes.E, Point Zero, Shen Men, Tranquilizer point, Master Cerebral, Thalamus point.

9.19.11 Testitis

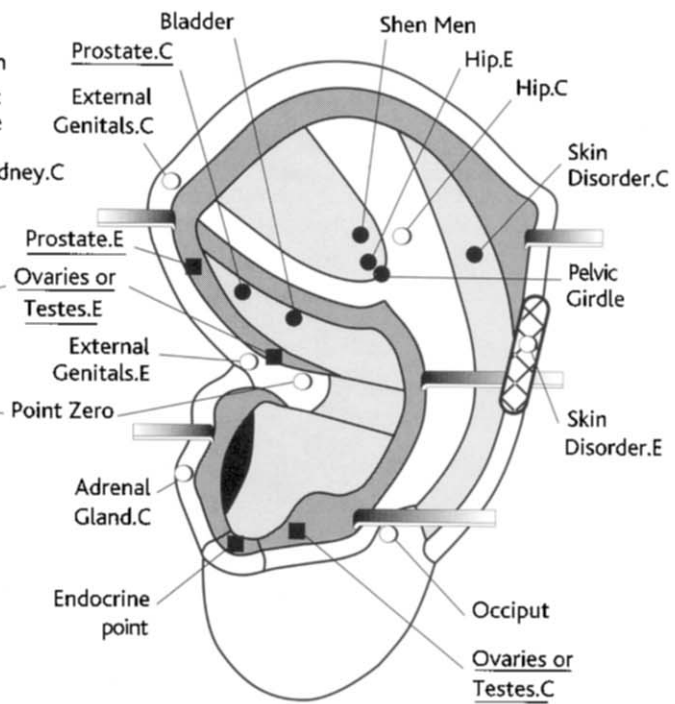
Primary: Testes.C, Testes.E, External Genitals.C, External Genitals.E, Pelvic Girdle, Shen Men.

Supplemental: Prostate.C, Prostate.E, Point Zero, Endocrine point, Adrenal Gland.C, Hip.C, Hip.E, Occiput, Liver.

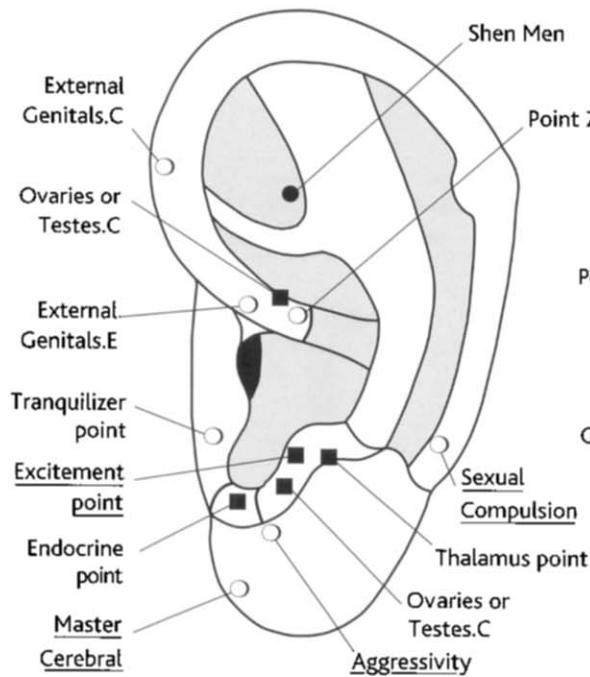
Impotency, frigidity, lacking sexual desire



Prostatitis and testitis



Sexual compulsion, premature ejaculation



Hyperthyroidism, hypothyroidism

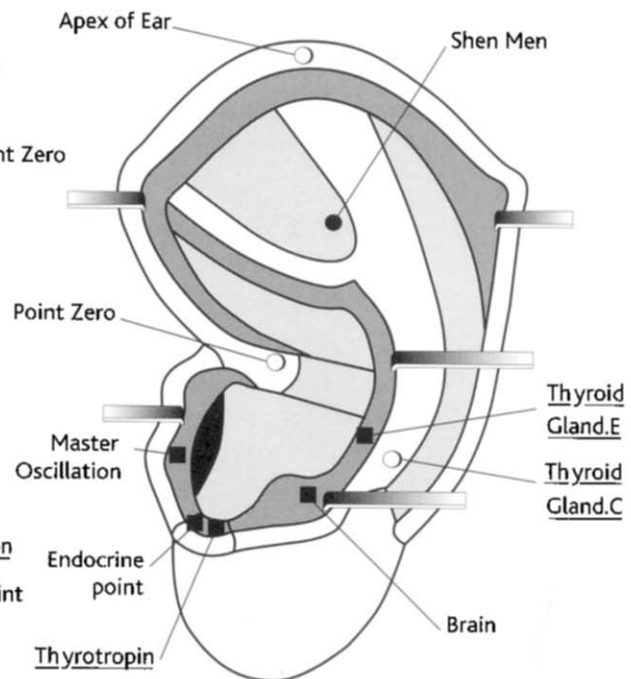


Figure 9.21 Glandular disorders and sexual dysfunctions treatment protocols.

9.20 Illnesses, inflammations and allergies (Figure 9.22)

9.20.1 AIDS, HIV disease

Primary: Thymus Gland, Vitality point, Spleen.C, Spleen.E, Point Zero, Shen Men, Endocrine point, Thalamus point, Sympathetic Autonomic point, Heart.C, Occiput, Thyroid Gland.E.

9.20.2 Allergies

Primary: Apex of Ear, Allergy point, Omega 2, Inner Nose, Asthma, Antihistamine, Thymus Gland, Point Zero, Shen Men, Sympathetic Autonomic point, Endocrine point.

Supplemental: Adrenal Gland.C, Thyroid Gland.C, Thyroid Gland.E, Kidney.C, San Jiao, Lung 1, Lung 2, Brain, Spleen.C, Spleen.E.

9.20.3 Anaphylaxis hypersensitivity

Primary: Asthma, Lung 1, Lung 2, Large Intestines, Thymus Gland, Shen Men, Endocrine point, Thalamus point, Adrenal Gland.C, Adrenal Gland.E.

9.20.4 Antiinflammatory

Primary: Apex of Ear, Allergy point, Omega 2, Occiput, Point Zero, Shen Men, Sympathetic Autonomic point, Thalamus point, Adrenal Gland.C, Adrenal Gland.E.

9.20.5 Antipyretic

Primary: Apex of Ear, Omega 2, Liver, Large Intestines, Adrenal Gland.C, Shen Men.

9.20.6 Cancer

Primary: Corresponding body area, Thymus Gland, Vitality point, Heart.C, Point Zero, Shen Men, Thyroid Gland.E.

9.20.7 Chicken pox

Primary: Lung 1, Lung 2, Point Zero, Shen Men, Endocrine point, Adrenal Gland.C, Occiput.

9.20.8 Common cold

Primary: Inner Nose, Throat.C, Throat.E, Forehead, Lung 1, Lung 2, Asthma, Antihistamine, Prostaglandin 1, Prostaglandin 2, Apex of Ear.

Supplemental: Point Zero, Shen Men, Adrenal Gland.C, Adrenal Gland.E, Occiput, Thalamus point, Thyroid Gland.C, Thyroid Gland.E.

9.20.9 Fever

Primary: Vitality point, Occiput, Point Zero, Shen Men, Thalamus point, Endocrine point, Adrenal Gland.C, ACTH, Apex of Ear, Omega 2, Prostaglandin 1, Prostaglandin 2.

9.20.10 Influenza

Primary: Forehead, Lung 1, Lung 2, Point Zero, Shen Men, Adrenal Gland.C, Thymus Gland, Apex of Ear.

Supplemental: Apex of Tragus, Helix 1, Helix 2, Helix 3, Helix 4, Helix 5, Helix 6, Omega 2, Prostaglandin 1, Prostaglandin 2.

9.20.11 Low white blood cells

Primary: Liver, Spleen.C, Heart.C, Kidney.C, Adrenal Gland.C, Endocrine point, Shen Men.

Supplemental: Diaphragm, Occiput, Sympathetic Autonomic point, Vitality point.

9.20.12 Malaria

Primary: Thalamus point, Endocrine point, Adrenal Gland.C, Liver, Large Intestines, Spleen.C.

9.20.13 Mumps

Primary: Face, Salivary Gland.C, Salivary Gland.E, Thalamus point, Endocrine point.

9.20.14 Weather changes

Primary: Weather point, Point Zero, Shen Men.

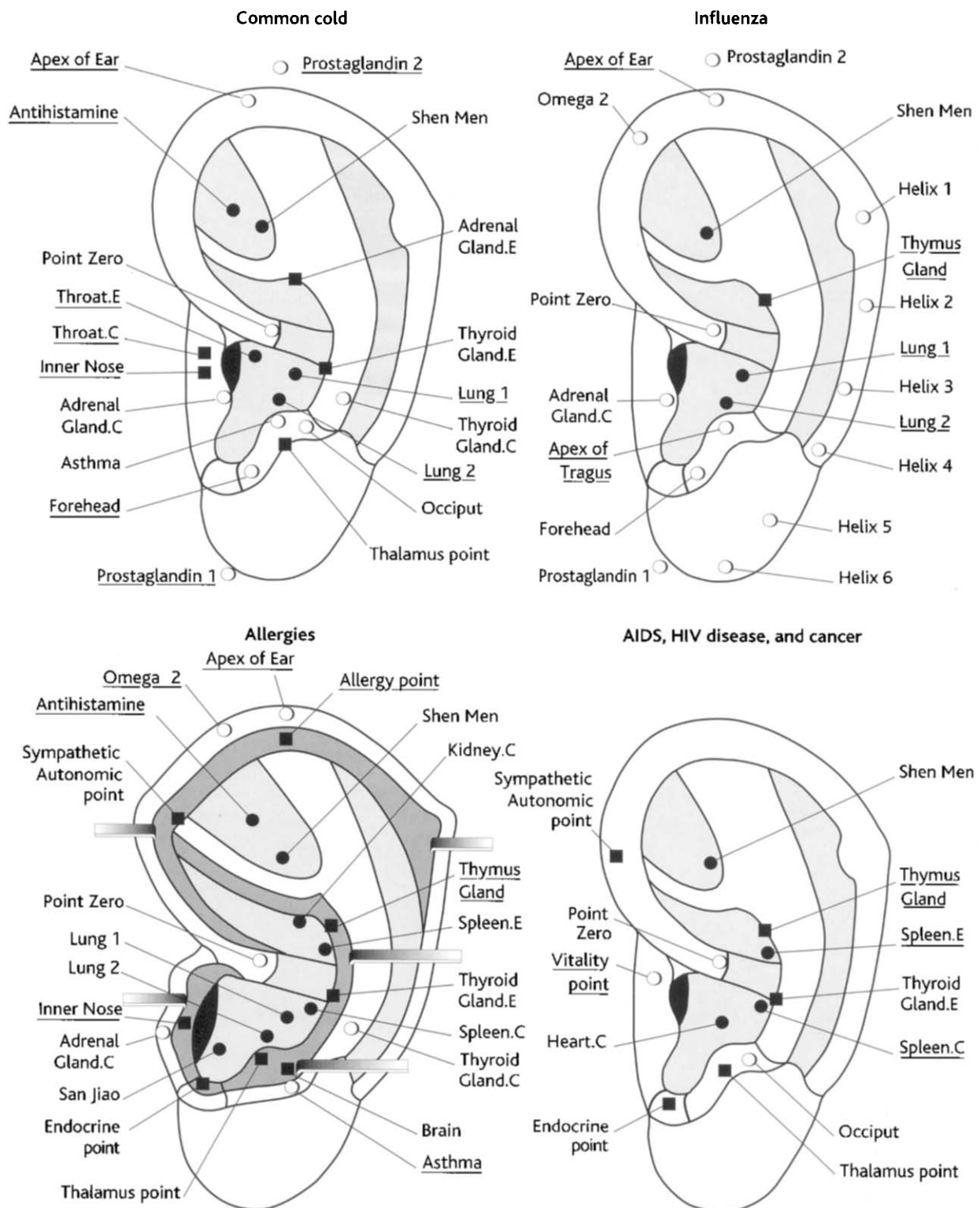
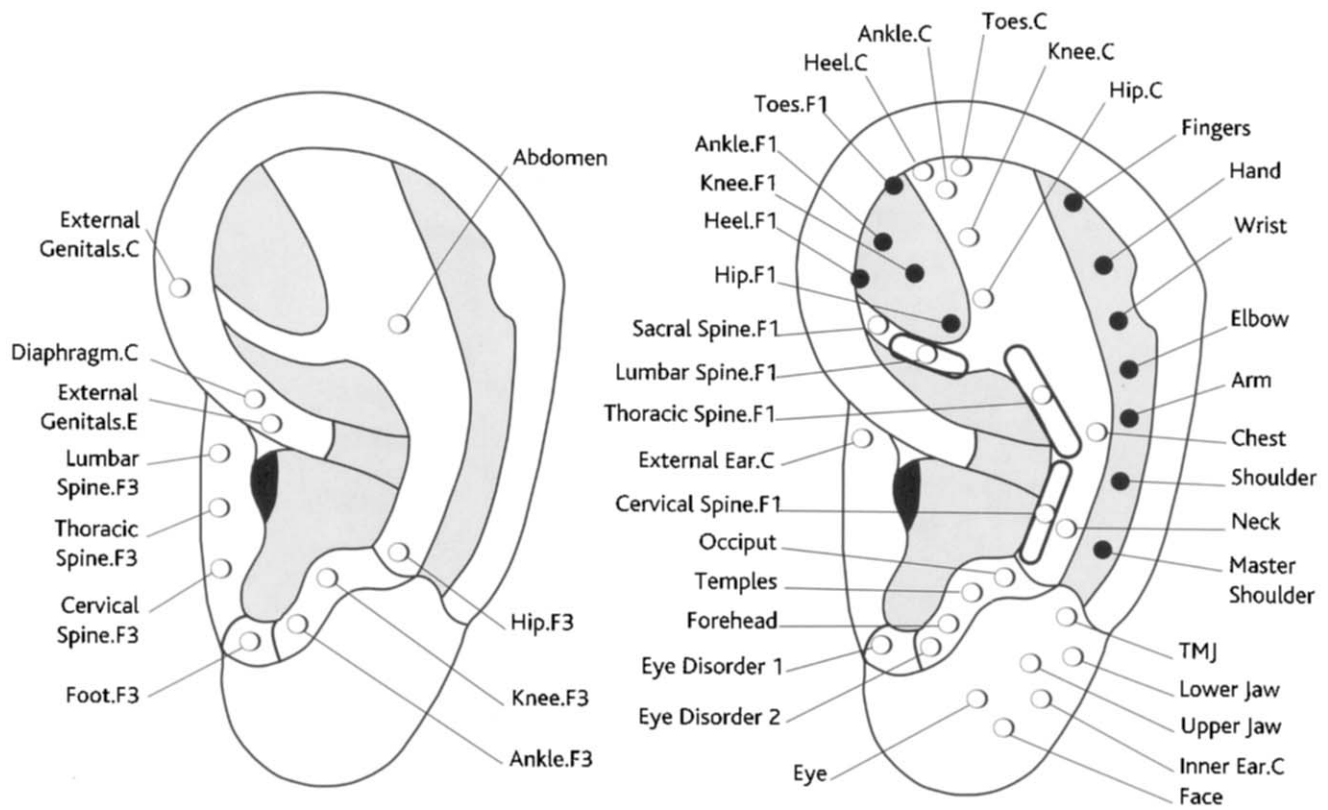


Figure 9.22 Illnesses, inflammations and allergies treatment protocols.



Nogier Phase II and III ear points

Nogier Phase IV ear points

Figure 9.23 Ear points and corresponding body areas.